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Guest Editorial

Medical Regimentation

TODAY America stands at the Cross Roads: It is for her to choose one of two alternatives—

Shall we maintain our American way of life and standards of living, or, shall we adopt European collectivism with governmental control?

Jefferson's ideal in government was:

> "A wise and frugal government which shall restrain men from injuring one another, but shall leave them otherwise free to regulate their own pursuits of industry and improvement and shall not take from the mouths of labor the bread which it has earned."

The operation of our American system as idealized by Jefferson has brought us to the forefront of nations socially, economically and politically. The result of this system under which the individual has been left free to exercise his special talents in the fields of his choice is that the social and economic condition of the mass of our people is superior to that of any people on the face of the earth. They are better fed, better housed, better clothed, better paid, work fewer hours and have greater opportunities and facilities for recreation than are enjoyed elsewhere.

Under this system we believe in Social Security, but within reason, for after all social security is but the strength of the taxpayer, since the only source for its support is the tax revenues from individuals and industry.

Unless both the individual and industry are allowed to retain their incentive through equality of opportunity and freedom of enterprise the sources for the support of social security will dwindle and eventually dry up, since no new wealth will be created and there will be none to tax.

In spite of these axiomatic principles the apostles of the revised version of the "Gospel of the Common Man" have injected into our national life the thought that our American system is all wrong and that the government should be conducted principally for the benefit of a special class known as the "Common Man". Further, that through governmental control and direction of the individual and of industry the Common Man will be freed from all of those fears which have haunted man since he was driven from the Garden of Eden, viz: Freedom from fear, and Freedom from want.

This sounds like an invitation to the millenium and that is just what it is intended to be. Unfortunately, however, they do not tell us that this millenium will never take

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place because long before the goal is reached the individual will have lost his initiative, industry will have slowed down, and the tax revenues will be insufficient to continue the program. When this happens the last state of these people and of all the people will be worse than the first.

Their proposal is that we surrender our equality of opportunity and freedom of individual enterprise for a governmental collectivism in which we will be directed controlled, coddled and protected through appropriate laws and regulations to be administered through officials and agencies.

In line with this, as an entering wedge with which to separate us from our American system, they have proposed for passage Senate Bill 1161, known as the Wagner-Murray Bill. This Bill under the cloak of an amendment to the present Social Security law, contains a proposal, which if enacted into law will strike at the very root of those liberties vouchsafed to us under our Bill of Rights, in that it will regiment the medical profession and place practically the entire profession, as well as the hospitals, research laboratories and medical colleges, under governmental control, and regulate the medical service and treatment of the larger part of our population.

Under this Bill, the present Social Security tax of 2 per cent, of which 1 per cent is paid by the employer and 1 per cent by the employee, will be increased to 12 per cent, of which 6 per cent is paid by the employer and 6 per cent by the employee on wages up to $3,000 per annum. Government employees will pay 3½ per cent and self employed, 7 per cent. It will enlarge its coverage to include domestic servants, farm laborers, soldiers in service, government, state and municipal employees, which it is estimated will increase those insured by approximately fifteen million persons. This tax, it is estimated by the Treasury Department, will return in annual revenues twelve billion dollars. Of this, some nine billion will be devoted to benefits and protection of employees and other persons who are covered, as well as for their dependents. The remaining Three Billion will be placed under the control of the Surgeon General of the Public Health Service, a political appointee, who will, through regimentation of the medical profession, of the hospitals, research laboratories and medical educational institutions administer medical service and treatment as well as hospitalization to an estimated one hundred and ten million people.

The menace of this bill to our free institutions is apparent when we visualize the tremendous power which will be placed in the hands of this one man, who has three billion dollars to administer, and who will hold in his hands not only our doctors and hospitals, but the education of our future physicians, as well as the life, death and health of over a hundred million persons.

The power is too great to be wielded by one political appointee or by any one man or group of men in a democracy such as ours.

To the unthinking its menace is not apparent, but those who give thought will discern within its supposedly benevolent frame-work, the spectre of absolutism in government reaching out to snatch from us those liberties for which our fathers died.

GEORGE E. HAW.*

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OUR RESPONSIBILITIES TO ORGANIZED MEDICINE*

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It has been a real pleasure to have served you as the President of the Medical Society of Virginia in the past year. I am not unmindful of the distinctive honor which you did confer upon me and I am grateful to you for this confidence.

Because of the difficulties of travel and the added responsibilities of my own work, I have not had the privilege of visiting the various component county and municipal societies as I should have been pleased to do. I am confident, however, that you will be tolerant of this shortcoming of mine because you, too, have had added responsibilities and you must understand the difficulties which I have encountered. The privileges afforded me by virtue of this fine office have enabled me to gain a better knowledge of many of my professional friends and associates and I relinquish my duties as President of the Medical Society of Virginia with a great deal of admiration and personal affection for the group of excellent men who practice medicine in Virginia. Certainly no state in the Union could boast of a more admirable personnel.

It is a pleasure to pay my respects to our Executive Secretary, Miss Agnes Edwards, and her office force. By virtue of Miss Edwards' experience in the affairs of our Society, her keen sense of justice and her sound judgment, she has advised me wisely in the direction of the affairs of this office. I can recommend her counsel without reservation to the incoming officers.

I am grateful also to the men who have composed our vital committees during this past year. They have maintained a fine degree of interest and they have given unreservedly of their time and efforts in the behalf of our Society's affairs.

I desire to call your attention to the fine spirit of cooperation that exists between our profession and our State Department of Health. I am confident that this cordiality and understanding will continue so long as the Health Department remains under its present administration of Dr. Riggin. Dr. Riggin possesses a fine degree of evaluation of the problems arising in the practice of medicine and he has the desire and the ability to offer our profession much valued advice. I sincerely hope that his counsel may be available to you for many years to come and that his influence in the practice of medicine in Virginia may be perpetuated.

During the tenure of my office I have gained certain impressions and convictions which I want to discuss very frankly with you. It is my opinion that entirely too few of the doctors in our State feel a vital interest in the affairs of the Medical Society of Virginia. For many years the operation of the Society has been in the hands of only a limited group of men. Please understand that I know that without the untiring effort of this group of stalwart men our organization would necessarily have suffered and we owe this interested group a real debt of gratitude. I think, however, that there should be created in the minds of the profession generally a proper proportion of their responsibility to organized medicine and organized medicine as such begins first in our State organization. It is my belief that our future happiness and satisfaction in the practice of medicine will be in direct proportion to the efforts which we as individuals and as professional groups manifest in the affairs of the Medical Society of Virginia. Our Society needs the counsel of the best medical men in the State and the influence and support which these men can give the Society is vital to our organization's welfare. It is agreed, I believe, that all groups of doctors have appreciated the benefits of the practice of medicine and these benefits have largely come to us through organized medicine. Had organized medicine not functioned in some manner in the past, very probably the free practice of medicine would not exist in our country today.

It is disturbing to me to feel that even in view of the effort which we have put into our fight to curb the illegal practice of cults in Virginia, very few results have been obtained. Probably our laws are sufficient to take care of this problem, if such laws were popular and enforcible. It is possible, of course, that I do not have a proper evaluation of what has been accomplished by the efforts of our Legislative Committee in the past in regard to this problem because, had this Committee not functioned

*Address of the President at the annual meeting of the Medical Society of Virginia in Roanoke, October 25-27, 1943.

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vigorously, one would not know how extensive the practice of the cults would be today. The facts are, however, that even today many of our most worthwhile people in the State manifest an interest in the protection of this illicit practice. I doubt our ability to pass any laws at this time which would remove from our midst this menace to the public welfare. This group of irregular practitioners have had an appeal to our people by emphasizing the fact that no opportunity was afforded them to become legalized, however anxious they might be to become legalized. Many of the members of our profession are today wondering if this matter could not best be handled by agreeing to some type of legislation which would create a Basic Science Board and all candidates of the practice of the healing arts be forced to meet the requirements of such a Board. I know that our Legislative Committee is giving this particular problem a very great consideration at this time. I, of course, appreciate that the creation of a Basic Science Board will not be what the cults desire. However, it will eliminate their battle cry of not having the privilege to become legalized. Many of the States are operating under a Basic Science law and it is my advice that such laws have been found effective in their operation. Our Governor has appointed a commission to study this entire subject and this commission is expected to make a report to the next Legislature. So far as I know, no one is aware of what position this commission, appointed by Governor Darden, will take in regard to this matter.

It is a great pleasure to commend to you that fine group of men who compose our Board of Medical Examiners. This Board of Examiners maintains an excellent and intimate relationship with our State Society. They have used every effort at their disposal to maintain a high standard for the practice of medicine in Virginia. The personnel of this Board has made a constant effort and sacrifice in many instances to carry out the mandates of the law imposed upon them.

All the suggestions that I have made seem to me to be dwarfed by a more serious situation which has occurred in our sphere of interest during the past few months. In June of this year Senator Wagner introduced in the Senate for himself and Senator Murray an amendment to the Social Security Act known as the Wagner Bill S.1161. A companion bill was introduced at the same time in the House of Representatives by Representative Dingell. The substance of these bills is directed at meeting the major economic hazards of the average American citizen through his entire life. This proposed legislation is said by its proponents to insure medical care and medical service to all wage earners without interfering with the choice of patient, doctor or hospital. This bill carries a payroll tax of 12 per cent divided equally between employee and employer. The Surgeon General of the Public Health Service is to administer this national health and hospital care program. We are told that this legislation is sponsored by powerful interests whose plan is to make every effort to make this legislation the law of our land. It is apparent that, if this bill is passed, the private practice of medicine will become a thing of the past. This entire matter should be viewed by us not as a personal threat to our present happiness and economic security, but rather from the angle as to what system of the practice of medicine is best for our people generally. We believe that we can give irrefutable evidence that the practice of medicine in America has done more for the welfare of the people in the past century than has accrued from all the efforts of creating a State of Social Security.

Homer Folks, writing in the S.C.A.A. News, says in part:

"The phrase 'social security' is a recent arrival. It has no one clear-cut definition. It would seem that it should mean 'Individual Security Through Social Action'. A large part of individual insecurity obviously arises from causes beyond the individual's control.

"Some men are born poor; some achieve poverty; and some have poverty thrust upon them; and the last is by far the largest group. Obviously society may operate in various ways in reducing individual insecurity. . . .

"But social insurance is only one form of social security. The Beveridge Report is in fact entitled 'Social Insurance and Allied Services'. What are some of these allied services? How valuable are they, how long have they existed, how dynamic are their contributions to social security, how susceptible are they to further extensions? . . .

"Clearly, nothing has promoted social security, dependability of income, personal adequacy, and efficiency in meeting the responsibilities of life more than the prevention of smallpox, tubercu-

losis, diphtheria, syphilis, catastrophes related to childbirth, pneumonia, and the like. No provision for the care of the sick and the maintenance of widows and orphans can compare for a moment, as a measure of social security, with the prevention of disease. We face here a fundamental difference in philosophy and in method, which seems to have been very often greatly underestimated, or even overlooked, by the promoters and framers of social insurance measures. The forgotten factor is the dynamic value of preventing misfortune, loss of income-producing capacity, and social insufficiency, instead of, to a degree, regarding such losses as inevitable and devising measures for spreading their incidence over large groups and periods of time.

"It is not fanciful to see an 'insurance psychology' which loses sight of that valuable distillation of human experience—an ounce of prevention is worth more than a pound of cure. It is, of course, not a question of 'either or'; it is a question of practicabilities and possibilities of both at any given time. . . .

"Certainly one of the most important tests by which all these social security plans should be judged is as to how, and to what extent, they promote public health. It must be admitted that, on preliminary reading, both the British and the American plans are, as compared with their other subject-matter, definitely vague as to the all-important subject of public health. The term 'public health' may be considered as including mental hygiene, though that term does not seem to appear in either report. Mental disorder certainly calls for a lot of hospital care, roughly equivalent to all other types of hospital care put together. It breaks up more families, destroys more individual efficiency, spoils more personal plans, and causes more social wreckage than any other type of illness, possibly more than all other types put together. The fullest application of our all too scanty knowledge of the causation, possible prevention, and suitable diagnosis and treatment of mental disorders should certainly have a large place in plans to promote individual security through governmental action."

I cannot feel that we would show any degree of wisdom if we approach this virile subject with a deaf ear and portray a feeling of self-righteousness and complete satisfaction. Possibly concessions must be made by us and changes in our present system may be warranted. I am confident that the medical profession will show a willingness to corroborate with other interests in this subject when it may be shown that the new suggestions warrant a change in our practice because of benefits to the masses which will occur as a result of such changes. It might be said, however, that I do not feel that any suggestion that carries with it the destruction of the relationship between doctor and patient or the elimination of the question of personal incentive on the part of the doctor will merit our approval or adoption. In every instance where these vital factors have been ignored the people first have felt the change and later the medical profession has shown evidences of stagnation. This deduction must be concurred in when one remembers how anxious have been excellent physicians from other countries having a social system of medicine to come to America for practice. This desire of foreign physicians to locate in America was true before this miserable war was forced upon us.

Just what such concessions should be agreed upon or what changes should be made in our present method of practice I am sure I do not know. Even in our own State I am convinced there is no unanimity of thought upon this subject. It is my belief that interests may best be served by having this matter watched and studied by the best minds in our profession. With this thought in mind I am asking the Council to create a new and permanent committee whose responsibility will be to keep themselves posted on this entire subject and further to cooperate with any other state or national medical agency whose object is to improve the health of our people and to maintain the essential and cordial relationship necessary for an alert, happy and worthy medical profession. Even granting that this proposed Wagner Amendment to the Social Security Act is defeated (which defeat is not assured), there will probably be recurrent efforts to regiment the medical profession and to render it a politically controlled body. With our victorious ending of this war, efforts will be directed towards the establishment of a peace whose object is easy, economic security for everyone. In justice to our colleagues who have given up their practice to go voluntarily into the service of our country, it behooves each of us to carry on this effort towards the protection of the medical profession in a fair and intelligent manner

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so that when these men return home they may have the same opportunities in their practice which they left in our hands for safe keeping. In this battle we will have few allies. Our assistance must come from an intelligent and properly educated public on this particular subject. Each of you has a responsibility. Few mistakes can be tolerated on our part if we are to maintain our identity.

THE DOCTOR'S BAG[1]

Doctor Harry Gold of the Department of Pharmacology, Cornell University Medical College, examined the bags of seven doctors, most of whom practiced in the center of New York City. The contents were found to vary a great deal; one bag had only four items, another as many as 21. Gold has drawn up the following list of drugs which he feels, while not complete, comes fairly close to meeting every emergency condition in which a drug may be helpful or even decisive.

1. Hypodermic tablets of amorphine hydrochloride, gr. 1/10.
2. Syrup of ipecac.
3. Morphine sulfate, gr. ¼ tablets.
4. Digitaline Nativelle, 0.2 mg. tablets.
5. Ouabain, 2 cc. ampules, each containing 0.5 mg. ouabain.
6. Tablets of phenobarbital, gr. ½.
7. Capsules of pentobarbital sodium, gr. 1½.
8. Ampules of phenobarbital sodium.
9. Ethyl chloride in a spray tube.
10. Ampules of 50 per cent dextrose, 50 cc.
11. Ampules of mecholyl, 25 mg. each.
12. Hypodermic tablets of atropine sulfate, gr. 1/150.
13. Tablets of quinidine sulfate, gr. 5.
14. Ampules of quinine dihydrochloride, 20 cc. containing 32 mg. quinine dihydrochloride.
15. Ampules of mercupurin, 2 cc. (or some other organic mercurial diuretic).
16. Ampules of theophylline ethylene-diamine, gr. 3½ in 10 cc.
17. Ampules of epinephrine 1:1000 solution, 1 cc. each.
18. Ampules of ergotamine tartrate 1:1000 solution, 0.5 mg. per cc.
19. Ampules of solution of posterior pituitary, 1 cc.
20. Vial of insulin.
21. Hypodermic tablets of nitroglycerine, gr. 1/150.
22. Pearls of amyl nitrite.
23. Alcohol, 70 per cent.
24. Sterile packets of sulfanilamide powder.
25. Tablets of sulfadiazine, gr. 7½.
26. Tablets of aspirin, gr. 5.
27. Solution of ephedrine sulfate 1 per cent (any of the substitutes belonging to this class of preparations will do).
28. Solution of picrotoxin, 0.3 per cent solution, 20 cc.
29. Solution of pontocaine, 1 per cent solution.
30. Ampules of calcium gluconate, 10 per cent solution, 10 cc.

H. B. HAAG.

1. Conferences on Therapy, *New York State Journal of Medicine*, 43:1435-1440, 1943.

THREE SUCCESSFUL CASES OF TOTAL GASTRECTOMY*

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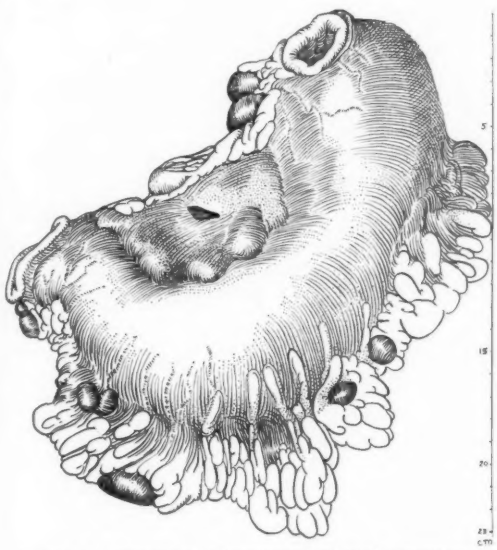
Until a few years ago total gastrectomy was an extremely rare operation, and even now it is uncommon. In 1929 Waltman Walters reported a successful total gastrectomy in the Proceedings of the Staff Meetings of the Mayo Clinic, and said that including his own case there were only 70 cases recorded in the literature. Felix de Amesti (de Amesti, Felix: Total Gastrectomy for Cancer—*Annals of Surgery, 117*: 183-190, Feb., 1943) in a paper published in 1943 stated that about 240 total gastrectomies had been recorded in the literature of the world. It is highly probable, however, that the number of total gastrectomies is much greater than this. Many of these operations have doubtless been performed that were unsuccessful and have not been published, partly at least because reporting the failures did not seem to add anything of value to the cause.



1.—Case 1. Drawing of external view of total gastrectomy. At the lesser curvature is shown the area of involvement of the pancreas. There are enlarged lymph nodes along the lower border.

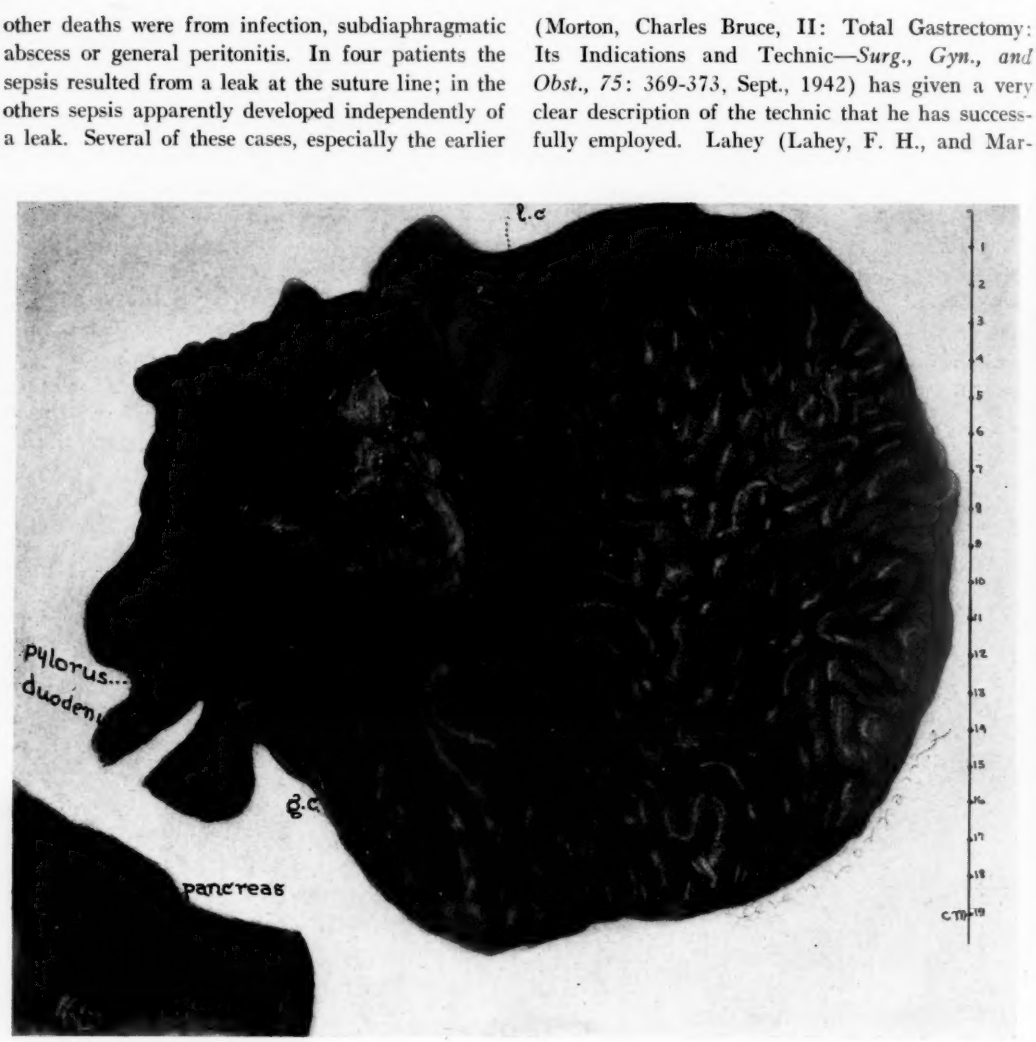
The two chief reasons for the rarity of this operation have been the high operative mortality and the opinion that the hemopoietic process was adversely affected by removing all of the stomach. However, a better selection of cases, improved pre-operative and post-operative treatment, and changes in the technic have greatly lowered the mortality rate.

Experimental work by Mann, Ivy, Dragstedt and others has demonstrated that it is impossible to produce in laboratory animals pernicious anemia by total gastrectomy. In an excellent paper on total gastrectomy by Farris, Ransom and Coller (Farris, J. Matthews, Ransom, Henry K., and Coller, Frederick A.: Total Gastrectomy: Effects Upon Nutrition and Hematopoiesis—*Surgery, 13*: 823-832, June, 1943), careful observations are recorded on four patients who survived total gastrectomy for more than two years. One patient at that time was living and in good health four years and seven months after operation. These authors state that the anemia resulting from total gastrectomy, or even sometimes from partial gastrectomy, is not the macrocytic or pernicious type of anemia, but is distinctly hypochromic microcytic or secondary anemia, which is usually associated with iron deficiency. It is well known now that organic iron in food is not available for absorption unless released by peptic or tryptic ferments. This holds true equally if there is achlorhydria. Ferrous iron (sulphate, chloride or carbonate) seems to be the only form in which iron is satisfactorily absorbed from the alimentary canal. According to these writers, the administration of ferrous sulphate three times a day for one week out of every month prevents this secondary anemia. After a few months the patient is able to take practically any kind of food, though it must be in smaller quantities and at more frequent intervals.

I have performed 15 total gastrectomies. The first was in 1929, the same year that Walters reported 70 cases then in the literature. My twelfth case was operated upon March 11, 1942. All of these 12 patients died following operation. All operations were for extensive cancer except one which was for multiple ulcers, one of them a large perforating ulcer in the cardiac portion of the stomach. Two of the deaths were from pneumonia, one from shock, one from a volvulus of the bowel between the entero-enterostomy and the esophagus, and one from thrombosis of the superior mesenteric vessels. The

*Read at a meeting of the Richmond Academy of Medicine, September 28, 1943.

other deaths were from infection, subdiaphragmatic abscess or general peritonitis. In four patients the sepsis resulted from a leak at the suture line; in the others sepsis apparently developed independently of a leak. Several of these cases, especially the earlier ones, had very extensive carcinoma and should not have been operated upon, as post mortem examinations disclosed residual carcinomatous tissue in the pancreas or in the region of the gastrectomy. In all of these cases except one—a death from shock—a post mortem examination was made.

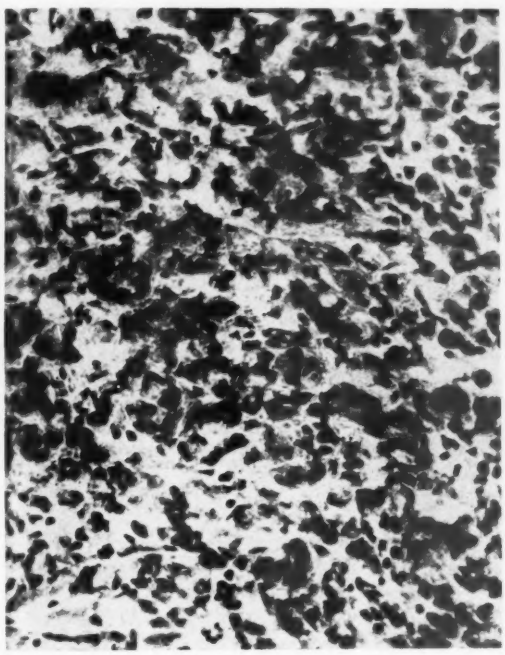


2.—Case 1. The stomach has been opened and the extensive ulcerated cancer along the lesser curvature is shown. The inset shows the portion of the pancreas that was removed with the stomach.

During this year I have performed three total gastrectomies, and all of them have made satisfactory operative recoveries.

There have been numerous additions to the technic of total gastrectomy. Charles Bruce Morton (Morton, Charles Bruce, II: Total Gastrectomy: Its Indications and Technic—*Surg., Gyn., and Obst., 75*: 369-373, Sept., 1942) has given a very clear description of the technic that he has successfully employed. Lahey (Lahey, F. H., and Marshall, S. F.: Combining Splenectomy with Total Gastrectomy—*Surg., Gynec. and Obst., 73*: 341-344, 1941) has shown that the spleen can be removed with apparently no deleterious effect upon the outcome of the total gastrectomy. This is a significant observation, because not infrequently the spleen may be closely attached to the stomach or may be injured. Allen (Allen, A. W.: Carcinoma of the Stomach with Special Reference to Total Gastrectomy—*Ann. Surg., 107*: 770-782, 1938) made an important contribution in suturing the loop of the jejunum

to the diaphragm in order to prevent traction upon the sutures to the esophagus. Probably one of the most important recent contributions to the technic is that of Roscoe Graham who advocates severing the vagus nerves, bringing down the esophagus by blunt dissection with the finger, and suturing a loop of jejunum parallel to the terminal esophagus. A transverse incision is made in the jejunum about an inch below the suture line, the esophagus is then divided and the end of the esophagus is implanted into the



3.—Case 1. Photomicrograph of the cancer shows numerous irregular cells, many with eccentric nuclei. There is a moderate amount of colloid x 360.

incision in the jejunum. This makes a buffer behind the esophagus which would seem to forestall leakage at this point. (Graham, Roscoe R.: A Technique for Total Gastrectomy—*Surg., 8*: 256-264, August, 1940).

The technic that I employed in these three successful cases is a combination of different features that have been developed by others and the results of observations in the necropsies of my patients who died. In one of these three cases, local anesthesia was used, and in the other two ethylene with a small amount of ether was given. Since the death by volvulus of the jejunal loop, the afferent limb of the loop of jejunum is united to the stump of the duodenum. This not only makes a three-point fixation of the jejunal loop and prevents volvulus, but offers an easy exit for the duodenal contents.

The suggestion by George Grey Turner of severing the bloodless coronary ligament of the left lobe of the liver and packing off the left lobe toward the

4.—Case 1. X-ray plate on June 19, 1943, twenty-two days after operation. Note the ample opening between the esophagus and the jejunum. The tube which was inserted at the time of operation has passed from the region of the anastomosis. An x-ray plate three days later showed the tube in the lower small intestine.

right side offers a much better field of the esophageal opening. The gastrocolic omentum is doubly clamped and divided in segments from the duodenum to the spleen. The attachments to the spleen are divided up to the esophageal opening. If the spleen is very close to the stomach or is involved in the malignant process, or if it is injured, it can be readily

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removed, as Lahey has shown. The attachments along the lesser curvature are also clamped and divided in segments. All of the clamped segments are transfixed and tied with catgut. The duodenum is doubly clamped and divided just distal to the pylorus. If a Jutte or Levine tube has been inserted into the stomach, the gastric contents are aspirated, the duodenal tube is withdrawn, and a soft rubber catheter is placed around the terminal esophagus as a tractor and to prevent reflux of further gastric contents. When the stomach is adherent to the pancreas this procedure must be varied. The involved portion of the pancreas may be dissected off, leaving it attached to the stomach. This is preferably done with the hot electric cautery. The pancreatic involvement usually occurs about the region of the gastric artery which should be clamped and severed before this dissection. The esophagus is mobilized, according to the technic of Roscoe Graham, the vagus nerves are cut, and the esophagus is pulled well down below the diaphragm. A loop of jejunum, amply long, is brought over the colon, laid parallel with the esophagus, and sutured with cotton to its posterior surface close to the diaphragm. About an inch below the suture line an incision is made in the posterior wall of the esophagus and a transverse incision is made in the jejunum. The adjacent margins of these two wounds are united with a continuous suture of cotton.

A rubber tube having a lumen diameter of ¼ of an inch, about four inches long with an extra opening near each end is fastened in the anastomosis by a suture of chromic catgut. This, I believe, is an important step in the operation in order to provide an immediate and adequate exit for the esophagus. The esophagus is then completely severed and the cotton suture is continued anteriorly, and tied to its original end. Another row of continuous sutures is placed anteriorly between the jejunum and the esophagus, drawing up as much of the efferent loop as possible, and then a third row of interrupted mattress sutures of fine chromic catgut is placed, bringing up the jejunum still farther. The ends of these last sutures are left long and a strip of omentum is carried around the anastomosis and the long ends of these mattress sutures are passed through the omentum. If omentum cannot be obtained, the anterior surface of the jejunum is sutured to the diaphragm just in front of the esophagus. The afferent or right loop of jejunum is united to the stump of the duodenum by an end-to-side method of anastomosis.

An entero-enterostomy is made between the two limbs of the jejunal loop as they pass over the transverse colon. This is done by a rubber band technic which makes it not only simpler but safer. It is practically an aseptic method. The two limbs are fastened together with a continuous suture of chromic catgut, and an ordinary rubber band No. 32 in a large round needle is passed through first one limb of the loop and then through the other near the line of sutures. A second band of the same size is also passed through the bowel on one side that is embraced in the first rubber band, and a third rubber band is passed through the bowel on the other side that is embraced by the first rubber band. An incision is made in the peritoneal and muscular coats of the portion of the intestine embraced by the last two bands, and these bands are tied down snugly, and the first rubber band is tied tightly. The suture is then continued anteriorly and tied to its original end. A few interrupted sutures of catgut are placed for additional security.

Several inches below this a mushroom catheter is inserted in the efferent loop and brought out through a stab wound to the left of the abdominal incision. The bowel around this catheter is sutured to the parietal peritoneum. Some sulfanilamide and sulfathiazole are placed in the peritoneal cavity. The abdominal wound is closed with interrupted sutures of malleable stainless steel wire through all of the abdominal wall except the skin and subcutaneous fat. The skin is sutured with cotton.

The patient receives a blood transfusion, and intravenous dextrose in Ringer's solution is given almost continuously for about two days unless the blood pressure tends to be elevated or there is pulmonary congestion.

The three cases that have been operated upon by this method are as follows:

Case 1. Mrs. W. B. L., age 50 years, was admitted to St. Elizabeth's Hospital May 24, 1943. She gave a history of having had "stomach trouble" for twelve months and had lost 25 pounds in weight. She had had pain four or five hours after eating. There were nausea and vomiting, with relief after vomiting. On admission gastric analysis gave free hydrochloric acid 10, 30, and 70 in the three half-hour specimens. The blood examination showed hemoglobin 75 per cent, r.b.c. 4,070,000; w.b.c.

7,650. The operation as described was performed on May 28, 1943. It was necessary to remove the spleen. There was involvement of the pancreas near the region of the gastric artery. The adherent portion of the pancreas was excised with the hot electric cautery. She made a very satisfactory recovery; her temperature was never above 99.8° except on June 10 when she had an attack of pyelitis. She was discharged from the hospital on June 24, 1943. Her family physician, Dr. E. L. Johnson, of Bedford, Virginia, who referred the patient, reported on September 1, 1943, that she was in very good condition and doing much of her house work. A letter received from the patient on September 8th says she has an excellent appetite, can eat almost anything, usually has some discomfort for a short time immediately after meals, and is feeling quite well. This discomfort is doubtless due to distention of the jejunum, and should disappear (Figs. 1, 2, 3 and 4).

Case 2. Mr. R. T. C., age 64 years, was admitted to St. Elizabeth's Hospital on July 12, 1943. He gave a history of intermittent severe epigastric pain for several years. The pain had been worse during the past eight months, during which time he had lost 40 pounds in weight. For the past two weeks there were repeated gastric hemorrhages. On admission to the hospital his hemoglobin was 24 per cent, r.b.c. 2,070,000. On the following day he had hemiplegia of the right side. Numerous transfusions were given with only a temporary rise in the hemoglobin. Gastric analysis gave no free hydrochloric acid in any of the three half-hour specimens. Roentgenologic examination showed marked gastric retention. The examination was repeated several days later, but was not satisfactory as the paralysis prevented manipulation. It was apparent that the patient would bleed to death. On August, 3rd, 22 days after admission, he was operated upon, under local anesthesia. Like the previous case there was a slight invasion of the pancreas in the region of the gastric artery. This affected portion of the pancreas was dissected off, attached to the stomach after clamping and dividing the gastric artery. The cancer was extensive. The operative technic described was used. He made a satisfactory recovery, his temperature was never above 100.5°. He left the hospital on August 25, 1943, 22 days after operation. His paralysis had somewhat improved, and his general condition otherwise was very good.

Case 3. Mr. W. M., age 60 years, was admitted to St. Elizabeth's Hospital on August 31, 1943. He gave a history of general weakness, substernal and epigastric discomfort for the past six months, with a loss of 12 pounds in weight during that time. On admission to the hospital the blood examination showed hemoglobin 48 per cent, r.b.c. 3,450,000, w.b.c. 6,000. Gastric analysis gave no free hydrochloric acid in any of the three half-hour specimens. Roentgenologic examinations revealed a very extensive gastric lesion. He was operated upon September 3, 1943, under ethylene anesthesia, by the technic described above. His gall-bladder, while not involved in the neoplasm, was very tense and adherent and was removed. There was extensive cancer along the lesser curvature. He made an uneventful recovery.

After losing 12 consecutive cases, having a successful operative outcome in three consecutive total gastrectomies is gratifying in a way. But in looking back, it is somewhat humiliating to think that if this technic had been adopted in those patients that died, many would doubtless have recovered. The important improvements in this technic, aside from the general preparation of the patient and the selection of the case for operation, are the adoption of the principle of the Roscoe Graham method of making the esophago-jejunal union and the insertion of a large rubber tube in the anastomosis which permits the telescoping of the esophagus into the jejunum without occluding its lumen. A transverse incision in the jejunum should tend to prevent a stricture, as the pull of the severed external longitudinal muscular fibers everts the mucosa. Uniting the right limb of the loop of the jejunum to the stump of the duodenum, the aseptic entero-enterostomy by rubber bands, and placing sulfanilamide and sulfathiazole in the peritoneal cavity are also important.

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SOME FACTS AND FALLACIES IN THE DIAGNOSIS AND TREATMENT OF CERTAIN PHASES OF PULMONARY TUBERCULOSIS*

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Danville, Virginia.

A few years ago I had quite a friendly controversy with a colleague who made the statement, in discussing the case of a high school student, that he could look at her and see that she had an active pulmonary tuberculosis and should be in a tuberculosis sanatorium for treatment. I listened to what he had to say but could not agree with his diagnosis, as I thought he was far ahead of the time in his assumed diagnostic ability.

The Creator of Man endowed him with five senses for his protection, comfort, pleasure and the acquisition of knowledge. For a good many years I had been cognizant of the fact that the trained eye to see, and the mind trained to interpret what the eye portrayed, could, by careful inspection of the chest, with all clothing removed to the waistline, pick up favorable leads to the underlying pathological condition in the chest, more particularly, perhaps, in pulmonary tuberculosis. When careful inspection is supplemented by the fundamental factors of family, personal history and a thorough physical examination of the chest, one has a good foundation for the x-ray and laboratory aids, and possible diagnosis, depending somewhat on the character and location of the density or infiltration shown on the x-ray plate. This is not always conclusive, as I shall try to demonstrate in the course of my further remarks.

Under the modern, stream-lined methods, approved and adopted today by the public health authorities of many of our cities and states, the x-ray is the Alpha and Omega of the complex problem of diagnosing pulmonary tuberculosis. I say complex problem for the well known reason that lung pathology shown on the x-ray plate not infrequently requires weeks of study and observation by men of training and experience in the diagnosis and treatment of pulmonary tuberculosis, with all the aids known to medical science at their command, to determine the cause of the pathology, and their final conclusions are reached, in not a few cases, by the process of elimination.

Clinical history and physical examination, both considered important in the past in the diagnosis of a disease killing thousands of the young manhood and womanhood of America annually, have been relegated to the medical scrap-heap as non-essential. If one is ready to accept the modern-day diagnosis, so much in vogue, of one of the most fatal maladies the world has ever known, I think one could, without insult to his imagination, visualize at no distant day some over-enthusiastic public health official with an imaginary gift of prophecy and a radioscopic eye, lining up the students of a high school or the employees of some industrial plant and, with a stick of chalk in his hand, pass along the line labeling some positive, some negative, some healed and some suspicious cases of pulmonary tuberculosis.

This statement may appear a bit facetious or it may seem that I have over-drawn the picture. If so, let's see what certain authorities have to say on the subject. I have a letter in my possession from the Medical Director of the oldest and best known institution in America, in which he says: "Diagnoses in pulmonary tuberculosis today are made on x-ray plates only, without, in many instances, proof of infection on the basis of probability, even though you have tubercule bacilli in the sputum and have a definite x-ray lesion in the lung. Your major lesion may be due to something other than tuberculosis, and the tubercule bacilli more or less incidental."

In Dr. Goldberg's two-volume work on tuberculosis, published in 1942, the following was said of diagnosis: "The important factors in establishing a diagnosis in pulmonary tuberculosis are readily seen to be dependent upon more than one examination, one as important as the other. The history may be the first lead to the diagnosis. Physical examination and the x-ray are important, but we wish to impress the reader with the fact that x-ray, though important in itself, cannot definitely substantiate the diagnosis of pulmonary tuberculosis."

A very interesting article by two members of the

*This paper was prepared for presentation before the Piedmont (Va.) Medical Society at its scheduled meeting, April, 1943. Due to the exigencies of war, this meeting was postponed indefinitely.

staff of the Trudeau Sanatorium appeared in the *Journal of the American Medical Association* on June 27, 1942. A rare but puzzling problem arose at the Trudeau Sanatorium because of the admission of patients with a history of acid-fast bacilli having been found in their sputum but the x-ray films failed to show any definite parenchymal lesions. In an effort to clear up the situation and for future guidance in handling such cases, the admission records for the preceding thirty years were reviewed and one hundred cases of this type were found. In fifty-five of the cases tubercle bacilli were found in the sputum in outside laboratories. In forty-five cases tubercle bacilli were found while the patients were in Trudeau Sanatorium. Ninety-seven of the one hundred cases on admission gave a history of one or more of the cardinal signs or symptoms of pulmonary tuberculosis, such as pleurisy with effusion, rales in the upper part of the chest, apical rales, hemoptysis, streaking, chronic fatigue, cough, expectoration or a low-grade fever. In all of these cases radiographic studies failed to confirm a diagnosis of pulmonary tuberculosis. In the follow up of these cases several relapses occurred after discharge from the sanatorium, showing conclusively that the diagnosis of pulmonary tuberculosis was correct.

In his annual address in 1941, the President of the National Tuberculosis Association had this to say regarding the diagnosis of pulmonary tuberculosis: "In spite of the improvement in x-ray equipment and in spite of all that has been learned about the interpretation of x-ray films, the x-ray does not take the place of physical examination or make it unnecessary to take a careful clinical history. We feel that medical students should be taught the rudiments of interpretation of x-ray films, but we feel very strongly also that they should be taught physical examination and history taking. They need to be taught that the x-ray does not replace but supplements physical examination, clinical history and laboratory studies."

Frequently we have pulmonary lesions due to causes other than infection by the tubercle bacillus, but which may closely resemble tuberculosis from an x-ray standpoint and which are differentiated only by very careful study. Neoplasms, residuals of certain virus infections, yeast or fungus infections, unresolved pneumonias, atypical lung abscesses, silicosis, asbestosis and pneumoconiosis are a few of the non-tuberculous lesions that may prove confusing and, since none of these lesions are labelled, diagnostic aids other than x-ray must be called upon to make a diagnosis. On the other hand, in tracheo-bronchial tuberculosis and tuberculous lesions behind the heart or mediastinum, in both of which conditions the sputum is frequently positive, there are no abnormal radiographic findings and it is impossible to make a diagnosis by means of an x-ray examination.

In 1942 the health authorities in a small Virginia city put on what they called a "Tuberculosis Survey," with the usual propaganda and over-emphasis on the value of an x-ray plate in the diagnosis of pulmonary tuberculosis. During the survey 932 citizens of various ages and sizes reported at a designated place for the x-ray and diagnosis. I understand that the 932 applicants were lined up and passed through the picture-making mill at so many per minute, and 932 embryonic prints of the lungs were turned out. These prints were sent elsewhere for growth and development and returned to Richmond, Virginia, where they were read and broken down, according to a press report, into definite classifications of negative, active, healed and suspicious cases of pulmonary tuberculosis. My reaction, after reading the report, was that such phenomenal power was only enjoyed by the superhuman and that the analytical diagnostic ability manifest in this instance must have been a special gift from the Gods.

We are perhaps spending, from all sources in the State, some two or three hundred thousand dollars annually for field work in tuberculosis, yet very little is said about treatment. Our state institutions are filled to capacity, most of the time with waiting lists. Statistics published by the National Tuberculosis Association in 1941 gave the mortality rate for the country at large as 46 deaths per 100,000 of population, whereas Virginia had a death rate of 49 per 100,000. We had more than 1,600 deaths from tuberculosis in Virginia in 1941, approximately 1,000 of this number dying before reaching the age of forty-five, during the active, productive period of life. There are a great many uncontrolled, active cases in the State for which we have no facilities for the proper care and treatment. In one of our institutions in January, 1943, there were

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fifty-seven patients under the age of twenty and eighty-five under twenty-five years of age. During the past three years more than 44 per cent of the patients discharged from this institution were between the ages of fifteen and thirty.

We may take a deep inspiration, swell out our chest, and point with pride to the reduction in the mortality rate from tuberculosis, but the fact remains that in 1941 we had 1,600 deaths in Virginia and 60,000 deaths in the country at large, directly chargeable to tuberculosis. Personally, I fail to get any consolation from these statistics. On the contrary, I think they should arouse us from our state of tolerance, lethargy and complacency and urge us to greater efforts in our search for early cases, not forgetting the fact that every far advanced and chronic case of pulmonary tuberculosis was, at some time in its history, an early case. It should also be remembered that statistics will show that between the ages of fifteen and forty-five, tuberculosis is the most fatal disease we have.

There is a striking parallel between war and tuberculosis up to a certain point. War and tuberculosis both have a destructive objective. Both draw their recruits very largely from the youth of our country and statistics will show that the peak of mortality occurs in corresponding age brackets of life. Here the parallel ends.

I am informed that a recruit or draftee for the armed forces of our country is given one or more complete physical examinations, including a radiographic examination of his chest, and a long period of intensive training before he is considered qualified for active combat duty. Yet, I am creditably informed, physicians in Virginia, many of them without previous experience in treating clinical tuberculosis, are being trained in from six to eight weeks to treat a disease that has killed more people, to say nothing of the thousands invalided for life, than all the wars of our time.

In speaking of treatment I refer particularly to collapse therapy or artificial pneumothorax. From more than twenty years' experience in treating clinical pulmonary tuberculosis I am thoroughly convinced that it requires as much skill, experience and judgment to pilot a patient receiving artificial pneumothorax through a period of from two to five years, or longer, to a successful conclusion, bearing in mind the many changes, accidents and complications that may and frequently do occur during the course of treatment, as is required by any other supplementary method of collapse therapy employed today. The present practice of hospitalizing some of our patients in state institutions for a period of a few months to have an artificial pneumothorax instituted or initiated, and then to send these patients back to their homes scattered over the State where they will be treated over a period of years by men with very limited experience in the treatment of tuberculosis, many of whom have access to neither x-ray nor fluoroscopic equipment, is, in my opinion, a manifest disservice to the patient, approaching dangerously near the border-line of malpractice.

We have in Virginia a very worth-while law requiring all school children to be successfully vaccinated against smallpox before entering any public school in the State. I understand that no death from smallpox has been reported to the state health authorities since 1934. There is no fanfare or beating of drums when the tubercle bacilli marshal their forces for an attack. They go about their work in a quiet way and, when the victim of an attack feels ill enough to consult a physician, the disease, in the majority of cases, has progressed to the moderately advanced or far advanced stage and we have lost the most important factor in the successful treatment of pulmonary tuberculosis, namely, early diagnosis.

For a good many years I have advocated the use of the tuberculin test for the detection of tuberculous infection among our young people. I would like to suggest to the tuberculosis-minded people of Virginia who are interested in the control of pulmonary tuberculosis, especially in our young people, that we take some concerted action in the matter, and my suggestion is that we petition the Legislature of Virginia to enact a law requiring all high school students from fourteen to twenty years of age to have routine tuberculin tests, subsequent studies to be determined by the reactions to the tests. Such a law would not solve the problem of tuberculosis in Virginia but it would, in my opinion, be a constructive approach to a very serious problem involving the health, happiness and life of many of our young people and it would allow us to meet the enemy on the first line of battle before irreparable damage had been done.

I want to say, in conclusion, that I am not un-

mindful of the value of the roentgen ray. The x-ray has, in a large measure, revolutionized the practice of medicine and surgery in the civilized world. I consider the x-ray and fluoroscope indispensable in the intelligent treatment of pulmonary tuberculosis and the most dependable factor we have in demonstrating lung pathology, but not the last word in the diagnosis of pulmonary tuberculosis. Tuberculosis is a very serious matter, as I know from personal experience. Every person charged with having, or suspected of having, pulmonary tuberculosis has a right to his day in court and a speedy determination of his guilt or innocence. Propaganda, the x-ray alone and probability are not the solutions to the problem.

Edwin Court.

Medical Books Urgently Needed in Russia.

Vast public health and rehabilitation problems facing Soviet authorities in the thousands of devastated communities recaptured from the Nazis this year are reflected in an appeal just received by Russian War Relief for more than 200 American textbooks urgently needed in Soviet medical schools and libraries.

Dr. Vladimir V. Lebedenko, noted Soviet neurosurgeon now in the United States on a Red Cross mission, gave the list to Russian War Relief with the plea that the books be collected as quickly as possible to aid in the training of thousands of additional physicians and other personnel needed to handle the enormous post-war job of rehabilitating soldiers and civilians suffering from the terrible impact of this war.

Russian War Relief pointed out that whereas medical textbooks previously requested by Soviet authorities were devoted to problems of military medicine, this new list is much broader in subject matter, ranging from plastic surgery to nutrition. It reflects a growing interest of Soviet health officials in the latest American findings in such fields as the treatment of tuberculosis and pneumonia, dietetics, child psychiatry and play therapy, stomach diseases, war neuroses, occupational therapy, psychology and mental hygiene. A few works on cattle and insect diseases are also needed.

Dr. Lebedenko told Russian War Relief that these textbooks would be particularly useful at this time, since Soviet medical institutions are training two and a half times as many physicians as before the war, at a time when paper and other material shortages have greatly reduced Russia's own publishing activities.

Gifts of textbooks from American physicians and medical associations have played a part in the training of more than 66,000 doctors in the U.S.S.R. since June, 1941, according to Russian War Relief. Many letters have been received from Soviet physicians and students expressing deep gratitude for the books. The writers particularly mention their pleasure at receiving messages from the donors. Included in a long list of books desired are two by Virginia doctors—A Handbook of Allergy for Students and Practitioners by Wyndham B. Blanton, M.D., and The Diagnosis and Treatment of Diseases of the Esophagus by Porter P. Vinson, M.D.

Dr. Lebedenko's medical booklist is available upon request from Russian War Relief, 11 East 35th Street, New York 16, N. Y. Books donated should be sent to the above address.

Penicillin for Civilian Use.

A forecast that "under the powerful impetus of government agencies" there should be sufficient penicillin produced to more nearly provide for civilian as well as military needs within the next twelve months has been issued by Dr. Theodore G. Klumpp, president of the Winthrop Chemical Company, Inc. Dr. Klumpp is a member of the Penicillin Producers' Advisory Committee that met recently in Washington with the Office of Scientific Research and Development and the WPB. For the immediate present, public health authorities should absorb all possible knowledge on penicillin as a means of "completing the link between producers, the government and the public", he stated.

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PLANS FOR A MISSION HOSPITAL CENTER IN KOREA

R. MANTON WILSON, M.D.,
Richmond, Virginia.

Now that a successful conclusion to this war appears much more evident than it did on that fateful seventh of December, I have begun to plan for future aid to the people of Korea, among whom I lived for thirty-three years. When the Japanese drove medical missionaries out of Korea, it was with bitter disappointment that I abandoned a medical program there that included a prospering leper colony of 700 people. The only hope of these unfortunates lay in the hands of the medical missionaries; what is happening to them now, no one knows. During this enforced furlough in America, some of us have been preparing for a brighter future, when we can return and render even better service than before. I believe that the medical profession is, and certainly should be, interested in plans for post-war medical aid to such countries; it is for this reason that the following report is made.

No one unacquainted with Korea can imagine the frightful need for medical care and sanitary measures, as well as education to combat ignorance and superstition. The people are afflicted with leprosy, tuberculosis, malaria, typhus, and diphtheria. Sanitary measures are almost unknown: rats run about the gutters and over food, disseminating typhus and Brill's disease; there is an open toilet in every yard, breeding the flies which swarm over the faces of children and the sick—leaving them spotted with fly specks. In fact, a large part of the time of one of our nurses was taken up in extracting dead flies from the auditory meati of infants. Moreover, the human feces are then spread on the fields, contaminating the green vegetables, many of which are still eaten raw. Thus the natives become veritable ambulatory zoological gardens populated by hookworms and amebae. The fact that the communal spring or well is often down hill from a village, thus permitting surface drainage, does not facilitate attempts to control typhoid fever. Mosquitoes breed freely in tubs of water about the houses. The usual custom of the natives is to use a smudge in the house at night until they fall asleep, and then permit the insects to drink their fill unhindered. The practice of eating raw crab meat is responsible for the common infection with Distomum, the lung flukes, producing chronic hemoptysis.

The native doctors are still far from being capable of handling these manifold problems. Some of these practitioners are merely boys who formerly acted as orderlies in our hospitals, who have been

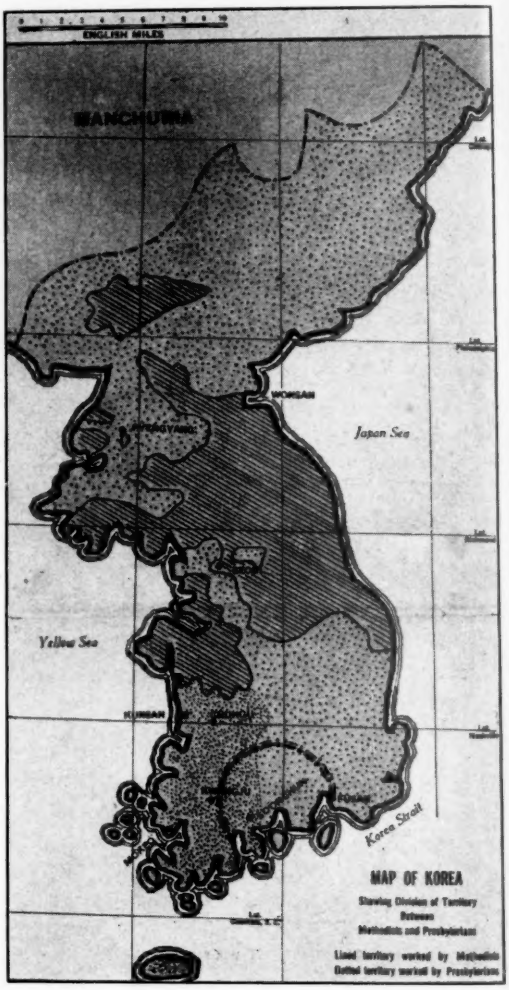

Figure 1. Korea.

granted licenses to practice. At that, they are far superior to the doctors of the "Old School", who practice acupuncture with filthy needles, and insert mops into the stomach to extract evil spirits. Although we hope to train further our former orderlies,

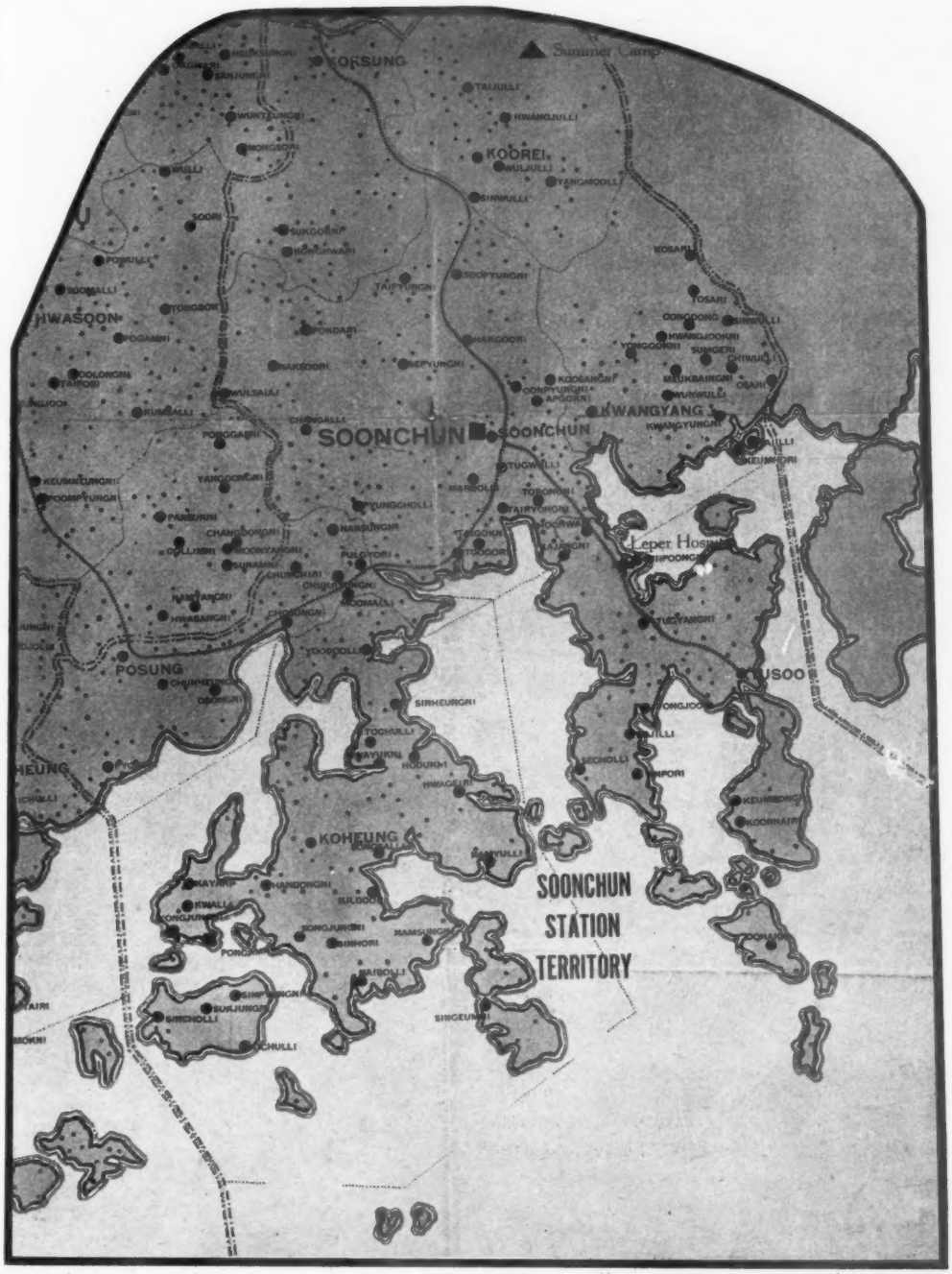

Figure 2. Enlargement of circle in South Korea. Scale—One inch equals 15 miles. Small dots are villages, larger dots churches. Population of this area is 100,000; all Korea 23,000,000.

about all we will be able to do for the others is to continue to extract broken-off mops from the stomachs of their patients.

The Koreans are also badly in need of dental care. Although the teeth of the children are excellent, perhaps due to lack of sweets, the adults require many extractions. On one occasion, another physician and I extracted exactly 999 teeth in four days.

Thus the need for help is evident. Now, what can be done? I, for one, am returning to Korea as soon as possible after the war, and it is with pardonable pride I can state that my five sons are planning to return with me. All were born in Korea; the people and the language are familiar to them. Three of them are graduates in medicine; the fourth soon will be. All of them are now enrolled in the Army. We plan to establish a Medical Center at one of the established Mission Centers in Soonchun, Korea, where our leprosy hospital is, or perhaps was, located, for this area is thickly populated and rife with ignorance and misery. Within a radius of 60 miles there are 100,000 people. Also, the large area of coast line there will make it possible for one of us to spend most of his time visiting these people by boat, as an Oriental version of Doctor Grenfell's Labrador Mission. If Korea does not get her freedom after the war, we plan to go to west China where the needs are even greater.

The staff, to begin with, would be small, to consist of us five physicians, perhaps four evangelists, two nurses, and one business man. Each doctor would specialize in one of these branches: Medicine; Surgery; Obstetrics, Gynecology and Pediatrics; Ear, Eye, Nose and Throat; Public Health. The plant would consist of five hospital units: Men's, Women's, Children's, Tuberculosis and Leprosy. An ambulance will be necessary to bring in some patients, in addition to those brought in by boat.

Our objectives will include:

1. Evangelism through medicine.
2. Care of the sick, especially of tuberculosis and leprosy.
3. Advanced medical and surgical problems.
4. Promotion of public health by education throughout the district.
5. Provision of internships for the native doctors.
6. Training of native nurses who will eventually disseminate their knowledge over the country.

Finally, we plan to turn over this work to the natives, through their churches, as soon as they are able to carry the burden, for in such a country it is only through progressive churches, rather than through backward governments, that progress can be obtained.

Such is our plan; a plan in which we believe so sincerely that my five sons, all young men on the threshold of their careers, are ready and anxious to devote their entire lives to it.

1308 Avondale Avenue.

Amebiasis.

The incidence of amebiasis has been shown to be greater than was formerly supposed, and there is reason to believe that the disease may become even more prevalent when large numbers of troops begin to return home from the tropics. Surveys collected before the war revealed that more than one in ten subjects harbored *E. histolytica.* It would seem reasonable, therefore, that whenever intestinal symptoms form a part of the clinical picture, the diagnosis should not be considered complete until the possibility of amebiasis has been ruled out. Chronic, uncomplicated intestinal amebiasis is the most frequent type, and it includes the carrier as well as the individual with recurrent or mildly persistent symptoms. Pulvules Carbarsone, Lilly, each containing 0.25 Gm., may be given orally at the rate of one pulvule two or three times daily to a total of twenty doses (5 Gm.). This routine may ordinarily be repeated several times, provided intervals of ten days are allowed between courses and the urine and liver show no evidence of damage. Bed rest is not necessary in this group.

SULFAGUANIDINE IN THE TREATMENT OF ACUTE BACILLARY DYSENTERY— A STUDY OF 520 CASES

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Many writers have recently called attention to the fact that sulfaguanidine is quite efficacious in the treatment of bacillary dysentery.[1-7] Attention has also been called to the use of this drug in the treatment of bacillary dysentery carriers.[8-12] During the five week period, ending June 28, 1943, five hundred and twenty cases of acute bacillary dysentery were treated with sulfaguanidine at the 151st Station Hospital, located in Northwest Africa.

I. CLINICAL CHARACTERISTICS OF THE CASES

A. Systemic Symptoms.

All of the cases presented typical symptoms of an acute dysentery, with the passage of from five to fifty daily stools containing blood, pus, and mucus, and exhibited extreme prostration, chills, fever, nausea, vomiting, weakness, tenesmus, anorexia, and dehydration.

1. *Fever.*—Ninety per cent of the cases were febrile on admission (See Table I). Admission temperatures ranging as high as 105.4, and as low as 97.0, were seen. The average temperature was 101.6, while the mean temperature was 102.4.

TABLE I
SYMPTOMS OF THE DISEASE

Fever	(90%).
Abdominal Cramps	(85%).
Chills	(48%).
Nausea and Vomiting	(45%).
Tenesmus	(42%).
Blood in Stool	(33%).
Anorexia	(25%).
Headaches	(12%).
Generalized Aches	(10%).
Dizziness	(10%).
Weakness	(10%).

2. *Abdominal Cramps and Tenesmus.*—Generalized abdominal pain recurring at intervals in the form of cramps was noted in eighty-five per cent of the cases, while tenesmus was complained of by forty-two per cent of the cases.

3. *Chills.*—Forty-eight per cent of the cases experienced one or more true shaking chills prior to admission to the hospital. This high instance of true shaking chill presented many diagnostic problems as, not infrequently, cases of Plasmodium Falciparum malaria present themselves with chills and fever, accompanied by bloody diarrhea.

4. *Nausea and Vomiting.*—Nausea and vomiting were present in forty-five per cent of the cases.

5. *Blood in the stools.*—This condition was noted by thirty-three per cent of the patients. This figure probably should have been higher as many patients were unable to state whether their stools contained blood, pus, or mucus, due to the fact that the majority of the patients were using field latrines where observation of the character of the stools was impossible.

6. *Frequency of the Stools.*—The frequency of bowel movements during the twenty-four hour period preceding hospitalization ran from five to fifty. The average frequency per patient was eight stools for that period of time.

7. *Miscellaneous.*—Among the various symptoms that made themselves known were: anorexia—twenty-five per cent, headache—twelve per cent, general aches and pains—ten per cent, and dizziness and weakness—ten per cent.

II. CLINICAL COURSE

These five hundred and twenty cases of acute bacillary dysentery were among young adults, whose average age was twenty-seven years. Practically all of the cases had been ill a matter of a few hours, while a very few had had symptoms for as long as twenty-four to forty-eight hours prior to admission. The patients were extremely prostrated, toxic, dehydrated, and several were admitted with a history of sudden, and complete, collapse while on duty. One man was found lying in the road, conscious but too weak to get up. Many of the patients were so seriously ill as to dispel any pre-conceived notions of the invariable mildness of bacillary dysentery caused by the Flexner group of organisms.

The response to therapy was very rapid. The

*Dr. Page was practicing in Richmond, Va., at the time of entering the Armed Forces.

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majority of the cases had normal temperatures by the third or the fourth day (See Chart I for six representative cases). The second day the stools became semi-soft and showed less blood, pus, and mucus. By the third or the fourth day the stools were becoming formed, and the blood, pus, and mucus had disappeared. By that time bowel movements averaged but one or two a day.

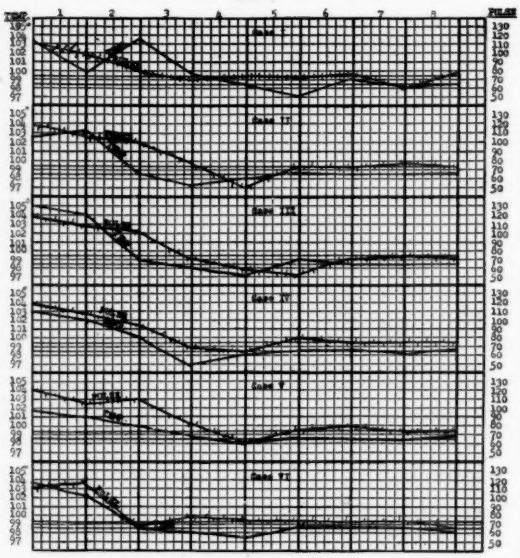
CHART I

TEMPERATURE AND PULSE CURVES OF SIX REPRESENTATIVE CASES

Days	1	2	3	4	5	6	7	8
Case No. 1								
Temp.	103.	100.	103.4	99.4	98.6	97	98.6	98.8
Pulse	110	100	88	74	74	72	72	72
Case No. 2								
Temp.	102.6	103.2	98.6	97.	98.	98.6	98.6	98.6
Pulse	118	106	72	60	72	72	74	72
Case No. 3								
Temp.	105.	104.	99.	98.	99.	98.6	98.6	98.6
Pulse	120	108	100	70	58	62	72	72
Case No. 4								
Temp.	103.	101.	97.	98	98.	98.6	98.2	98.6
Pulse	118	92	70	66	80	72	72	72
Case No. 5								
Temp.	102.	101.	99.	98.	98.6	98.6	98.6	98.8
Pulse	120	108	110	80	60	72	78	72
Case No. 6								
Temp.	103.8	102.	98.6	98.	97.2	98.8	98.6	98.6
Pulse	110	118	72	78	72	72	74	72

CHART I

Temperature and pulse curves of six representative cases.



Sigmoidoscopic examinations were performed on patients failing to improve after a ten day course of therapy.

III. ETIOLOGY

Inasmuch as there had been a hundred and fifty hospital admissions a few weeks previously due to atabrine sensitivity, with symptoms closely resembling the dysentery cases in that they too had loose stools, vomiting, cramps, and tenesmus, it was thought of interest to determine what proportion of the dysentery cases had noted previous sensitivity to atrabrine. Only nineteen per cent stated that they had had previous intestinal upset upon taking atabrine.

Many of the army encampments were in close proximity to unsanitary native dwellings. There was a distinct possibility that the outbreak of the dysentery was caused by the ingestion of food or drink from native establishments in these unsanitary surroundings.

A. Food and Water.—Extensive investigation of food and water in the army messes failed to reveal them as possible sources of the outbreak. Only twenty-four per cent of the patients admitted having ingested food from other than the usual army sources.

B. Flies.—The large increase in the number of flies was noted coincident with the outbreak of the disease. Many colonies of Shigella Paradysenteriae were grown from the footprints of flies caught in army messes, living quarters, and latrines.

C. Civilian Carriers.—It is well known that a large percentage of the native population are chronic carriers of the bacillary dysentery. In doing routine stool cultures on fifty-four civilians employed in this hospital, it was noted that eight per cent of these civilians had Shigella Paradysenteriae bacilli in their stools, even though they were asymptomatic at the time the culture was made.

D. Length of Stay in North Africa.—Manson-Bahr[12] calls attention to the fact that outbreaks of dysentery are frequently seen in recent arrivals to Africa. British medical officers have frequently called attention to the fact that soon after their troops disembark in this theatre, epidemics of diarrhea break out. The name given to these outbreaks was "Gyppy Tummy" (or Egyptian stomach). Fifty

per cent of the patients in this series had been in Africa less than four weeks.

IV. TREATMENT

A. Bed Rest.—All patients, upon admission, were placed at strict bed rest in special isolated wards where enteric precautions were followed.

B. Diet.—Liquids—3000 cc. to 3500 cc.—consisted of bouillon, soups with added salt, tea, fruit juices, chocolate milk, as well as liquid gruel and gelatins. Within the first twenty-four to forty-eight hours, the patients were usually able to retain a soft diet. When the patients' temperatures reached normal a regular diet was given.

C. Drugs.—All patients were begun on a routine ten day course of sulfaguanidine immediately after the initial admission stool was obtained for culture. We found it impracticable to weigh our patients, and therefore did not follow the recommended dosage based on body weight, but gave all cases a standard dosage as follows: an initial dose of seven grams was followed by three and a half grams every four hours for the first forty-eight hours. After that, three and a half grams were given every eight hours, to complete a ten day course averaging a total dosage of one hundred and thirty grams.

Bismuth, grams 1.0, and paregoric, 4 cc., were given every eight hours as necessary, for the relief of severe abdominal griping and tenesmus.

Fourteen cases which failed to respond to the initial ten day course of sulfaguanidine, as evidenced by persistent positive stool cultures or continued frequent loose stools, were given a five day course of sulfadiazine as follows: two grams *stat.*, and then one gram every four hours day and night for two days; and then one gram every eight hours for the remaining three days—making a total dosage of twenty-three grams for the five day period.

D. Intravenous Infusions.—The markedly dehydrated patients, and those who could not retain fluids by mouth, were given 1000 cc. of glucose in normal saline every eight hours. No plasma or whole blood transfusions were given.

V. LABORATORY DATA

All patients had an admission stool culture. If the initial stool culture was negative, the patient was released from the hospital at the end of his ten day course of sulfaguanidine. If the patient's admission stool culture was positive, three consecutive negative stool cultures were required before he was released from the hospital. Five days were allowed to elapse after the completion of the sulfaguanidine therapy before beginning to collect the three stool specimens on successive mornings.

A red blood count, a white blood count, a differential count, and a urinalysis were done on each patient upon admission. Average values are shown as follows:

1. Average red blood cell count	4,500,000
2. Average white blood cell count	7,100
3. Highest white blood cell count	15,450
4. Lowest white blood cell count	2,500
5. Average differential: Polys.	64%
Lymphs	36%

VI. BACTERIOLOGY

Due to the limited supplies, and the field conditions, under which this work was done, the bacteriological procedures were necessarily simplified. All the stools were emulsified with equal parts of physiological saline and streaked out on a selected medium of desoxycholate citrate agar, or S. S. agar. Clear colorless colonies were fished to Russell's double sugar, or Kliegel's iron slants. Those that showed typical reactions were studied morphologically and biochemically with sugars, and agglutinated against known anti-sera. At the present time the nomenclature of the dysentery group may be slightly confusing. The organisms that were formerly known as Strong variety, Hiss-Y, or Russell variety, are now included in this group. In fact, at the present time, thirteen—possibly fifteen—different types of Flexner bacilli can be recognized.

There were two hundred and eight patients with positive stool cultures. Table II shows the results

TABLE II

Total number of cases	520	
Total number of positive cases	208	(40%)
a. Positive Shigella Paradysenteriae	190	(91.4%)
b. Positive Shigella Sonne	18	(8.6%)
Number of cases with a single negative admission stool	196	(37.7%)
Number of cases positive after initial course of therapy	14	(2.7%)
Number of cases with positive stools after second course of therapy	0	

of these stool cultures. There were one hundred and ninety positive Shigella Paradysenteriae, and eighteen Shigella Sonne. Only 2.8 per cent (14 cases) required a second course of sulfonamide (sulfadiazine was used) in order to render their

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stools negative. These fourteen cases were all Shigella Paradysenteriae.

Unfortunately, the cases in this series could not be observed for any length of time, but were discharged within a few days after the course of sulfaguanidine was completed and negative stools were noted. In the cases of the patients with an initial negative stool, they were only observed during their ten day course of therapy, while the other patients with positive stools were followed for a period of approximately twenty days.

negative stool culture represented the only culture taken of that particular patient. Reference to Chart II reveals numerous instances in which positive cultures were obtained after a negative report had been received on the previous stool culture (See cases 5, 11-15, 17, and 21). Had a series of six to twelve stool cultures been possible on each patient, the incidence of positive stool cultures would probably have been higher than the forty per cent of positive cases noted.

2. Although still a debatable point, it is possible

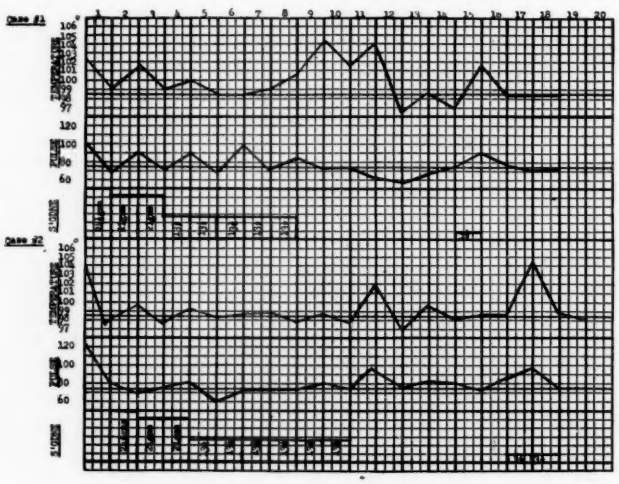
CHART II

TWO CASES OF DRUG FEVER FOLLOWING SULFAGUANIDINE

Days	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Case No. 1																			
Temp.	102.2	99	101.4	100	98.6	98.6	100	100.6	104	102.2	104	96.8	98.6	101.4	98.6	98.6	98.4	98.6	
Pulse	100	70	90	70	98	72	76	76	72	72	76	72	74	90	74	74	72	72	
S'gde gm.	21½	21½	21½	21½	21½	21½	21½							21½					
Case No. 2																			
Temp.	104	97.6	99.6	97.	98.6	98	98.6	97.	99.	98.6	102	96.	99.2	98.6	98.6	104.2	99.	98.4	
Pulse	122	80	70	72	80	60	70	80	76	72	98	72	80	74	72	100	98.8	72	
S'gde gm.	21½	21½	21½	21½	21½	21½	21½	21½	21½						3½	3½			

CHART II

Two cases of drug fever following sulfaguanidine.



It is felt that, while there were only two hundred and eight positive cases of bacillary dysentery as proved by the stool cultures, it is highly probable that a good many more of the cases had true bacillary dysentery. The reasons for this assumption are two-fold:

1. In many cases the initial single admission

that the percentage of positive cultures would have been higher if nicotinamide or nicotinic acid had been used in the culture media as suggested by Koser.[16] The observations of Koser and his associates are very interesting. They found that many Flexner and Sonne bacilli either failed to grow, or grew only poorly, in a basic medium consisting of

fifteen amino acids, glucose, and inorganic salts. Addition of nicotinamide or nicotinic acid exerted a marked growth-promoting effect. These substances may, therefore, be considered essential growth factors for these strains.

VII. CONTROL CASES

For the purposes of closer clinical and laboratory study, twenty-one cases were set aside and treated as follows: all of the patients had temperatures recorded three times daily, the number of stools recorded daily, a daily stool culture, and agglutination titers *versus* Shigella Paradysenteriae on the seventh and fourteenth days after the onset of the disease.

The group of twenty-one patients were divided into two groups of ten and eleven patients. The group of ten patients received sulfaguanidine, while the second group of eleven patients did not receive the drug. Both groups received bismuth, paregoric, and tincture of belladonna, as necessary. In addition to the above orders, the following special studies were made:

a. Patients receiving sulfaguanidine:

1. Complete blood count and urinalysis every two days while receiving the drug.

2. Blood sulfaguanidine levels on the third, sixth, ninth, and twelfth days, after the drug had been started.

3. Total sulfaguanidine urinary excretions in the daily twenty-four hour urine output.

b. Patients not receiving sulfaguanidine:

1. Complete blood count and urinalysis on admission and on the tenth hospital day.

Points which it was hoped that this control group would throw light on included the following:

a. The efficiency of sulfaguanidine in ridding the gastro-intestinal tract of the dysentery bacillus.

b. The efficiency of sulfaguanidine in controlling the symptoms of diarrhea, vomiting, fever, chills, etc.

c. Any toxic effects of sulfaguanidine on the blood, the kidneys, the neurological system, etc.

d. Whether positive stool culture reports, when dealing with Flexner bacillus, constant or the equivocal, as pointed out by Rantz and Kirby[8] and Opper and Hale.[10]

e. Blood sulfaguanidine levels from large doses such as were used in these cases.

f. Total excretions of sulfaguanidine in the twenty-four hour urine samples.

In the treated control group it would have been of interest if these patients could have been followed for a period of one to three months, obtaining daily stool cultures to determine if, or when, any cases might become positive following the course of sulfaguanidine. However, Opper and Hale,[10] in a small series of thirty-three cases, found that twenty-nine remained negative for the dysentery bacillus over an average period of one hundred and five days, followed by a seven day treatment of twenty-eight grams of sulfaguanidine. The four cases that subsequently became positive after the original course, were rendered negative by a second course of twenty-eight grams. In the Opper and Hale series, this represents an incidence of twelve per cent requiring a second course of sulfaguanidine. Anderson and Cruikshank,[4] in using sixty-two grams of the drug, felt that even larger doses might be used with good effect. The low percentage of cases (2.8 per cent) requiring a second course of therapy in our series of five hundred and twenty cases would certainly speak in favor of larger doses (130 grams).

VIII. RESULTS

A. The Efficiency of Sulfaguanidine in Controlling the Symptoms of Bacillary Dysentery.—There was a very rapid response to therapy. The majority of the cases had normal temperatures and pulse rates by the third or the fourth day (See Chart I for six illustrative cases). On the second day the stools became semi-soft and the diminution of blood, pus, and mucus was very marked. Third or fourth day stools were usually well formed and the blood, pus, and mucus had disappeared.

B. Toxic Effects of Sulfaguanidine.—Three cases developed drug fever which subsided as soon as the drug was withdrawn. To prove the etiology of this fever, the drug was again given and hyperpyrexia developed (See Chart III). There were no anemias, leucopenias, or other toxic effects in the blood. Anderson and Cruikshank[4] reported no toxic effects in their series of forty-one adult Flexner bacillary cases treated with sulfaguanidine. In spite of the finding of sulfaguanidine crystals—sometimes in very large amounts—in the urine of all patients receiving sulfaguanidine, there were no renal complications in this series. Examinations of hundreds of urine specimens failed to reveal any evidence of renal irritation as evidenced by albuminuria or hematuria.

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Barnes[17] calls attention to the fact that alkalinity and temperature affect the solubility of sulfadiazine and sulfathiazole in the urine, and has conclusively proven that the urine should be rendered alkaline in all patients receiving sulfadiazine and sulfathiazole. DeCandole[11] is the only paper that this author has seen that refers to the use of soda bicarbonate with each dose of sulfaguanidine. DeCandole doesn't give the reasons why soda bicarbonate was administered with the sulfaguanidine.

CHART III

STOOL CULTURES OF CONTROL GROUP

P=Positive stool
N=Negative stool.

Days	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
TREATED CASES																												
Case No. 1												P	N	N	N	N	N	N	N	N	N	N	N					
Case No. 2										N	N	N	N	N	N	N	N	N	N	N	N	N	N					
Case No. 3					P			P	P	N	N	N	N	N	N	N	N	N	N	N								
Case No. 4					P				P	N	N	N	N	N	N	N	N	N	N	N								
Case No. 5											N	P	P	N	N	P	N	N	N	N	N	N	N					
Case No. 6													P	N	N	N	N	N	N	N	N	N						
Case No. 7										P	P	P	N	N	N	N	N	N	N	N	N							
Case No. 8					P			P	P	N	N	N	N	N	N	N	N	N	N									
Case No. 9								N	N	N	N	N	N	N	N	N	N	N	N									
Case No. 10						N	N	N	N	N	N	N	N	N	N	N												
UNTREATED CASES																												
Case No. 11										N	N	P	P	P	N	P	N	N	N	N	N	N	P					
Case No. 12											N	P	N	N	N	N	P	P	N	N	N	N	N	N	N	N		
Case No. 13								P	N	N	P	P	N	N	N	N	N	N	N	N	N	N	N	N	N	N		
Case No. 14													N	P	N	P	P	N	N	N	N	N	N	P	N	N		
Case No. 15					N	N	N	N	N	N	N	P	N	N	N	N	N	N										
Case No. 16					N	N	N	N	N	N	N	N	N	N	N	N	N	N										
Case No. 17											N	N	N	N	N	P	N	N	N	N	N	N	P	N	P			
Case No. 18										N	N	N	N	N	N	N	N	N	N	N								
Case No. 19							P	P	N	N	N	N	N	N	N	N	N	N	N	P								
Case No. 20											N	N	N	N	N	N	N	N	N	N	N							
Case No. 21												N	N	P	P	P	P	N	N	N	N	N						

taking the drug underwent a recrudescense of their infectivity, indicating that caution must be exercised in deciding when the carrier state is definitely over. Reference to Chart II will substantiate the fact that in both sulfaguanidine treated and non-sulfaguanidine treated cases, positive and negative stools may be found in the same patient at different times. The urgency of the situation requiring that these patients rejoin their units at the earliest possible moment so that many of them might take their responsible positions among the key units engaged in making the invasion of the continent prevented observation over a long period of time to ascertain if any of these cases would subsequently become carriers. There is no doubt in our mind but that three negative stool cultures required for discharge from the hospital are too few. Just how many would be considered the proper number is still questionable. It is probable that troop movements in an active theatre of war would prevent observations as long as the period of a hundred and five days as in the Opper and Hale series, but certainly a happy medium of about fifteen consecutive stools might be aimed at, rather

No attempt was made in these cases to alkalinize the urine, and no complications were seen. No skin rashes or neurological effects were noted.

C. Stool Culture.—Rantz and Kirby[8] and Opper and Hale[10] emphasize the fact that the presence of Shigella Paradysenteriae in carriers has a tendency to be intermittent—the organisms being excreted for one or two days, and then not again for weeks or more. The usual criteria of a few successive negative stools following the termination of the acute illness can not be accepted as a guarantee against the reappearance of the organism. In the Opper and Hale series, four out of the thirty-three cases

TABLE III
BLOOD SULFAGUANIDINE LEVELS
(to 100 cc. of blood)

Days	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
Case 1															3.0			3.0			3.0		
Case 2											1.1			2.0			1.8						
Case 3													.709			.932			1.6				
Case 4										1.2			1.5			1.3							
Case 5													.10			1.5			1.5				
Case 6													1.9			1.5			1.6				
Case 7												2.0			2.1			2.0					
Case 8						2.9			1.7			.922											
Case 9			2.5			2.3			2.6														
Case 10									2.3			1.5			2.3								
Case 11			3.2			4.8			3.5														

than the three which is at present the requirement for discharge from the hospital.

D. Blood Sulfaguanidine Levels.—Smyth[19] reported blood concentrations as high as 16.0 mgm. per cent in his series of aged patients, while Lucchesi and Gildersleeve[20] found blood levels in children as high as 9.5 mgm. per cent. Table III shows that the highest blood concentration level reached in this series in young adults was 4.8 mgm. per cent.

E. Excretion of Sulfaguanidine in 24 Hour Urinary Specimens.—Table IV contains the figures showing the excretion of sulfaguanidine in the

TABLE IV
SULFAGUANIDINE CONTENT OF 24-HOUR URINARY SAMPLES
Top figure=volume of urine in cc. Lower figure= amount of drug in grams excreted.

June 5 6 7 8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
Case No. 1					1100	490	990	920	970	390	1100	800	575	815	900			
					1.034	.942	1.584	1.134	1.465	.181	.619	.085	.122	.057	.015			
Case No. 2			470	760	960	1180	1250	810	720	830	820	910						
			.376	.844	1.099	.959	1.152	.811	.373	.186	.079	0.0						
Case No. 3				1230	1090	625	930	718	890	820	820	870	260					
				1.111	1.090	1.250	1.099	2.051	.021	1.223	1.131	.063	.111					
Case No. 4			495	750	590				375	880	850	550						
			1.010	1.531	.541				.021	.921	.654	.023						
Case No. 5				545	640	720	360	1020	910	890	890	780	525					
				.316	.954	1.142	.750	1.172	1.138	.374	.050	.054	.042					
Case No. 6						335	1100	1185	1090	950	840	930	725					
						.195	2.245	1.823	.959	.950	.071	.182	.187					
Case No. 7		630		1130	1160	650	1005	965	780	1060	980	810						
		.724		.807	.618	1.512	.718	1.245	.530	1.093	.070	.104						
Case No. 8	1250	1120	1810	950	1820	750	1190											
	2.063	2.433	3.448	.704	.442	2.500	1.117											
Case No. 9						900												
						1.168												
Case No. 10		1080	710	820	800	525	900	690	1030	890	340							
		1.688	1.145	.975	.914	.991	1.168	.550	.069	.368	.063							

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twenty-four hour urinary samples. The highest values reached in this series was 2.5 grams.

IX. Discussion

In any large group of sulfonamide treated cases complications of one sort or another are common. This varies with several factors, among them being the sulfonamide used, dosage, blood level, amount excreted by way of the urinary tract, reaction of the urine, individual sensitivity, and the length of time that the sulfonamide is administered. The very low instance of complications seen in this series of five hundred and twenty cases would seem to indicate that sulfaguanidine should be the choice in bacillary dysentery, as sulfathiazole and sulfadiazine are definitely more toxic. In the fourteen previously mentioned cases which did not respond to the original course of sulfaguanidine, a course of sulfadiazine was used with good results. We feel that by using sulfaguanidine in place of a second course of sulfadiazine, equally good results could have been obtained. Opper and Hale,[10] as well as Cornell and his associates[21] found that a second course of sulfaguanidine was effective in the few cases where the first course failed.

Dowling and Lepper[18] found the incidence of toxic reactions with sulfapyridine, sulfathiazole, and sulfadiazine to be 29.4 per cent, 11.8 per cent, and 7.7 per cent, respectively, while Long[22] found the toxic reactions to the above named drugs to be 15.9 per cent, 18.6 per cent, and 6.5 per cent, respectively. The fact that toxic reactions (drug fever) occurred in only 0.6 per cent (3 cases) would indicate that sulfaguanidine is the drug of choice in the treatment of bacillary dysentery caused by Shigella Paradysenteriae and Shigella Sonne. It is possible that the low toxicity in this series is due to low blood levels (the highest was 4.8 mgm. per cent) as Dowling and Lepper found the incidence of renal calculi was *nil* at blood levels of 1.0-4.0 mgm. per cent, but rose to 3.4 per cent when blood levels reached 10.0 mgm. per cent, using sulfapyridine, sulfathiazole, and sulfadiazine.

The three cases of drug fever caused by the administering of the sulfaguanidine were the first that the author has seen. As far as is known, there is no reference in the literature to date on this complication.

X. Conclusions

A. Five hundred and twenty cases of acute bacillary dysentery were treated with sulfaguanidine during a five week period ending 28 June 1943 in Northwest Africa.

B. There were no deaths or serious complications. Three cases of drug fever responded to withdrawal of the drug. No urinary complications were seen, although numerous sulfaguanidine crystals were observed in urine specimens of all of the patients taking the drug. Close observation of the blood revealed no anemias, or leucopenias. More than ninety-one per cent (190 cases) of the positive cases were Shigella Paradysenteriae, while not quite eight per cent (18 cases) of the positive cases were Shigella Sonne.

C. Sulfaguanidine blood levels as high as 4.8 mgm. per cent were observed.

D. Sulfaguanidine urinary excretions in twenty-four specimens reached as high as 2.5 grams.

E. 2.9 per cent (14 cases) of the cases remaining positive after the sulfaguanidine therapy were rendered negative by a five day course of sulfadiazine.

F. Shigella Paradysenteriae bacilli appear intermittently in the stools of both the treated and the untreated patients.

G. Three negative stool cultures were inadequate as proof of the non-infectivity of the patient.

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The Medical and Surgical Relief Committee of America

Has donated to the War Shipping Administration 4,000 capsules of sedatives requested for use in recuperation centers in England and North Africa, according to Dr. Joseph P. Hoguet, medical director of the Committee.

Many American merchant seamen resting in War Shipping Administration convalescence posts abroad have manned ships loaded with explosives, many more have traveled through sub-infested waters, and others are survivors of torpedoed merchant vessels. Tense from the memory of grim ocean-crossings, from the shock of combat or shipwreck, these men cannot sleep, and some become so restless and upset, they are unable to calm down during the daytime. Doses of mild sedatives, such as those contributed by the Committee, relax strained nerves and ensure a normal night's rest.

This recent gift of the Medical and Surgical Relief Committee is but a small part of the $2,500 total of medical equipment requested by the War Shipping Administration's Medical Division in New York. To War Shipping Administration representatives serving in various foreign ports, the Committee has donated 16 large emergency medical field sets, at a cost of $140 each. Specially designed by the Committee's medical board, the field set consists of 2 valise-sized cases, for use by doctors for wounded and ill merchant seamen. Its drugs, antiseptics, bandages, sutures, syringes and minor surgery instrument roll equip it for any emergency, Dr. Hoguet pointed out.

Medical supplies in a strategic port are often scarce, yet merchant seamen landing there, either as injured or sick crew members or as shipwreck survivors, need on-the-spot treatment. This emergency care is what the Committee's set provides. Carefully packed for immediate use, the sets are portable, and can be carried directly to where the casualties are.

Conducted for over 3 years, the Medical and Surgical Relief Committee is dedicated to supplying medical and surgical aid to the armed and civilian forces of the United Nations. To date, over $572,000 of drugs, instruments, serums, vitamins and other equipment have been distributed to maritime and military units of America and her Allies, to needy hospitals, war-zone welfare agencies and to civilian defense posts throughout the free world.

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NOTE ON THE TREATMENT OF PULMONARY TUBERCULOSIS BY THE ADMINISTRATION OF HYDROCHLORIC ACID

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In 1923 while carrying out certain experiments in the physiology of the stomach, I administered dilute hydrochloric acid in varying doses to some 50 or 60 subjects. In my practice I also gave hydrochloric acid to patients with achlorhydria. Some of these normal subjects and patients volunteered the information that the acid increased appetite and gave a sense of well-being. In 1926 I began using dilute hydrochloric acid in one dram doses to private and hospital patients who complained of anorexia, underweight, or of being "below par". In about 70 per cent improvement, often considerable, resulted.

So much impressed was I with these results that I suggested to the medical superintendent of a nearby tuberculosis sanatorium that it might be worth while to try a similar course of treatment to his patients, with the object of improving appetite and weight.

Table I shows the results of administering Acidum Hydrochloricum Dilutum, in one dram doses with meals three times a day over a period of 72 days to a group of subjects with pulmonory tuberculosis. A similar group of tuberculous subjects acted as controls. Each group was originally composed of six male and six female adults. One male dropped out after three weeks for reasons now unknown. All subjects were weighed without clothes at intervals of one week. The acid was diluted in a glass of water, to which sugar and orange juice were added to taste, and sipped through a straw or tube with meals. There were no objections from the patients.

Results. At the end of 72 days the weight gains of the various groups were as follows:

(a) Males

5 "experimentals" gained an average of 0.40 lbs.

6 controls gained an average of 3.62 lbs.

(b) Females

6 "experimentals" gained an average of 4.30 lbs.

6 controls gained an average of 1.10 lbs.

(c) Totals

TABLE I

Showing the weights at 11 weekly intervals of two groups of tuberculous patients, (a) treated with hydrochloric acid with meals (b) controls.

(a) *Groups treated with Hydrochloric acid*

	Males — Weeks												Females — Weeks										
	1	2	3	4	5	6	7	8	9	10	11		1	2	3	4	5	6	7	8	9	10	11
A	143	142	142	144	143	143	141	140	140	140	139	F	114	114	113	112	112	113	111	113	115	114	114
B	130	126	127	128	128	127	127	128	129	129	129	G	104	104	106	104	105	106	108	106	107	107	106
C	116	120	121	121	120	122	121	119	118	121	121	H	78	78	80	81	83	83	84	85	85	86	86
D	131	129	131	130	131	132	135	135	136	136	135	I	106	106	109	110	108	110	110	112	113	114	116
E	110	110	111	112	106	109	110	110	110	109	109	J	102	101	101	102	101	101	101	101	102	101	100
												K	99	100	101	101	101	101	103	103	105	105	107
	632										634		605										631

(b) *Control groups*

L	167	166	166	166	168	169	169	169	164	169	170	R	102	101	104	101	101	102	102	103	102	103	102
M	116	115	117	116	116	118	117	118	119	119	119	S	98	100	100	101	100	102	101	101	101	104	101
N	138	137	139	140	142	143	144	147	148	147	147	T	112	112	113	112	112	112	112	115	114	113	114
O	141	142	143	144	145	145	143	145	145	146	146	U	112	112	112	110	110	111	109	111	113	113	112
P	116	114	114	115	115	116	115	116	115	115	115	V	118	118	117	117	117	117	116	116	118	119	117
Q	136	139	138	137	137	140	138	139	137	138	140	W	91	92	90	90	95	92	91	92	92	92	93
	817										839		634										640

For economy of space, all fractions of a pound have been omitted. They were, however, included in the totals.

11 "experimentals" gained an average of 2.52 lbs.
12 controls gained an average of 2.35 lbs.

Conclusion. In spite of the fact that the administration of dilute hydrochloric acid with meals appears to increase appetite and well-being, this treatment did not have any appreciable effect on the weight of a group of tuberculous patients during a ten-week period of observation.

The Mead Johnson Vitamin B Complex Award.

Nominations are solicited for the 1944 award of $1,000 established by Mead Johnson and Company to promote researches dealing with the B complex vitamins. The recipient of this award will be chosen by a committee of judges of the American Institute of Nutrition. The award will be given to the laboratory (nonclinical) or clinical research worker in the United States or Canada who, in the opinion of the judges, has published during the previous calendar year January 1 to December 31 the most meritorious scientific report dealing with the field of the B complex vitamins. While the award will be given primarily for publication of specific papers, the judges are given considerable latitude in the exercise of their function. If in their judgment circumstances and justice so dictate, it may be recommended that the prize be divided between two or more persons. It may also be recommended that the award be made to a worker for valuable contributions over an extended period but not necessarily representative of a given year. Membership in the American Institute of Nutrition is not a requisite of eligibility for the award.

To be considered by the committee of judges, nominations for this award for work published in 1943 must be received by the secretary, Arthur H. Smith, Ph.D., Wayne University College of Medicine, Detroit, by January 10, 1944. The nominations should be accompanied by such data relative to the nominee and his research as will facilitate the task of the committee of judges in its consideration of the nomination.

Development of Blood Serum Treatments Being Studied by Duke Professors.

Efforts to render blood of animals suitable for human transfusions are being made by Professors Frank W. Putnam and Hans Neurath, of Duke University, Durham, N. C.

In a paper read to the American Chemical Society recently, it was pointed out that protein molecules have a coiled structure which can be loosened or tightened by suitable manipulation with certain organic substances such as urea to modify their chemical nature and hence their disease-curing effects.

It has been discovered by Drs. Neurath and Putnam, in experiments on animals, that various proteins, including blood serums, lose their shock-causing properties after such treatment.

Investigation has shown that synthetic soaps are most effective in modifying the chemical nature of these proteins. Experiments are under way to learn whether they may serve as a means of treating blood proteins to avoid the serum-sickness that is always a risk in immunizing sensitive persons against certain diseases.

These experiments, conducted in laboratories at Duke, are part of the more general problem of investigating factors which cause proteins to produce anti-bodies when injected into human beings for therapeutic purposes.

New Aluminum Hydroxide Gel Preparation.

The value of orally administered aluminum hydroxide gel in promoting healing, relieving pain and controlling pain of gastric and duodenal ulcer, and in controlling gastric hyperacidity, is now well recognized. Its inclusion in New and Nonofficial Remedies and its admission to U.S.P. XII prompted the Squibb Laboratories to offer the preparation under the official name and, of course, in conformity with official specifications and standards.

As offered by E. R. Squibb & Sons, Aluminum Hydroxide Gel is pharmaceutically an elegant preparation of a fluid consistency.

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RECENT ACTIVITIES REGARDING COMPULSORY HEALTH INSURANCE

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Since March 1, 1943, three events of particular significance to the medical profession have occurred. In the order of their appearance, these are (1) The National Resources Planning Board Report (March 10, 1943), (2) the provision of funds for "medical, nursing, and hospital maternity and infant care" for wives and infants of enlisted men (March 18, 1943), and (3) The Wagner-Murray-Dingell Bill extending and amending the Social Security Act (June 3, 1943).

An analysis of these recent political activities will again emphasize, in the trend of political thinking, the ever-increasing tempo in agitation for a compulsory health insurance program.

While the sources of these events are rather widely separated agencies in view of their function and operation, the reports and proposals fall logically and naturally into an evolving pattern of social legislation. Just as the "National Health Bill" (1939), and subsequent proposals, were preceded by the reports of the "Technical Committee on Medical Care",[1] so the Wagner-Murray-Dingell Bill follows the National Resources Planning Board Report in time and pattern. The contribution that the expansion of the services provided by the "Children's Bureau" of the Department of Labor makes to the over-all pattern is clearly evident.

THE NATIONAL RESOURCES PLANNING BOARD REPORT

This document, variously known as the "Delano" or the "American Beveridge" Report,[2] concerns itself with a contemplated revision of the social and economic patterns of the country.

Among other things, it makes a general recommendation that the Federal government take immediate steps to foster the development of an adequate plan of medical care. Predicated on the hypothesis that "the health of the individual is the concern not only of the individual himself but of society as a whole", the report recommends that the government, in cooperation with the medical profession, take steps to develop "plans which enable the patient to budget expenses over a reasonable period and to contribute toward the costs of care according to his ability, and which at the same time assure to medical personnel a decent livelihood commensurate with the high costs of their professional training".

In this respect, it suggests a more radical and far-reaching step toward the complete socialization of health agencies than the Social Security Board which in its "Seventh Annual Report—1942" states:

> "The serious aspect of medical costs lies not in the average among the population as a whole but in the unpredictable and heavy burdens of families in which there is a major illness during a year. Provisions of benefits to offset the burden of hospital bills on insured workers and their families would be of substantial help in lightening the problem of high cost illness. The Board is of the opinion that the risks of hospital cost is one to which the approach of social insurance is particularly appropriate".[3]

Concerning the provision of medical care, the N.R.P.B. report suggests the exploration of "new methods of providing medical care and devices for making economical and effective use of such facilities and personnel as are available". In order to accomplish this purpose, the steps suggested are (1) the better coordination of facilities and agencies in medical and health care to preserve the health of the people, (2) an increased use of clinics, health centers and group practice so that care may reflect the developments and knowledge of medical science, and (3) more effective utilization of the doctor's training and skill so that he may devote his attention to ways and means of improving medical care.[4] It was also suggested that the provision of essential medical care include "promoting the health of mothers and children".

In presenting a broad pattern of medical practice deficiencies, the report failed, however, to make any specific administrative or functional recommendations. Hirschfield, in commenting upon this report, states "it advances broad proposals but fails to hammer them into statistical form".[5]

There are two general criticisms concerning the development of the program suggested. One of the criticisms questions the "ability of the national economy to absorb the enormous cost" which, it is estimated, will probably run into $15,000,000,000 a year for the entire program. Incidentally, the estimated cost of the health services included, based upon

the Beveridge figures and transposed into comparable figures for the United States, is $3,365,000,000 per year.[6]

The second criticism suggests that in such a program there "is the stifling of incentive on the part of the worker, who, assured of his security has no interest to struggle and strive for his own security and success".[7]

There is some question as to the actual validity of these criticisms of excessive costs and stifled incentive. The "Medical Planning Research" in the "Interim General Report" (which is a "report on a proposed reorganization of medical practice in Great Britain" compiled from the opinions and viewpoints of some 400 British physicians) contains the following statements which may be cited as answers to these objections:

> "It must be continually remembered that finances should no longer be regarded as a limiting factor. If the physical means to supply these services are available, cost is no longer an excuse for delay".[8]
>
> "We recognize that such comprehensive proposals carry with them a theoretical risk of excessive pampering and paternalism. . . . We regard the theoretical risks involved in social security as well worth running".[9]

While it is undoubtedly true that conditions in England are quite different from the situation in this country, there are competent authorities here who support the viewpoint outlined in the N.R.P.B. report which states that "we have now passed the stage when 'financing the program' need be more than a technical problem".[10] Although this report is considered by many as too revolutionary and visionary to be feasible and practicable, and Congress seems little disposed to react favorably to its proposals, it parallels to a remarkable degree the programs contemplated in England and Canada, which seem to have a better than even show of being adopted.

EMERGENCY MATERNITY AND CHILD CARE FUNDS

On March 18, Congress approved an appropriation of $1,200,000, for the purpose of making grants to the various states for emergency maternity and child care, for the period ending June 30, 1943.

The background of this proposal is extremely interesting. Approximately twenty years ago, Congress, cognizant of the "high infant and maternal death rate in rural areas", enacted the Sheppard-Towner Act (1921).[11] The provisions of this bill which were administered by the Department of Labor, provided grants to states for "maternal and child health" programs.

The appropriations for this act continued until 1929, when Congress provided no funds for its continuance, due in large measure probably, to the attitude of the American Medical Association. A resolution of the House of Delegates of the A.M.A. presented at the "Hearings before the House Committee on Interstate and Foreign Commerce" reads as follows:

> "Resolved that the House of Delegates condemns as unsound in policy, wasteful and extravagant, unproductive of results and tending to promote communism, the federal subsidy system established by the Sheppard-Towner Maternity and Infancy Act and protests against a renewal of that system in any form".[12]

Six years later, however, this opposition of the A.M.A. was ignored, and the Social Security Act re-established the maternity and child health provisions of the Sheppard-Towner Bill. Under Title V—"Grants to States for Maternal and Child Welfare", an appropriation was made "for the purpose of enabling each state to extend and improve . . . services for promoting the health of mothers and children".[13]

The amount available under this act was used in making payments to states that submitted approved plans for such services. Here, again, the provisions of the bill were administered by the "Children's Bureau" of the Department of Labor.

Some idea of the general acceptability of the program may be obtained from the "First Annual Report of the Social Security Board" which stated that, for "maternal and child health services", 51 plans were submitted (of which 49 were approved) during the five months' period ending June 30, 1936.[14]

Some criticism came as the result of the limited resources made available for the work[15] and in 1939, Congress increased the appropriation to $5,820,000. The Wagner Bill of 1939 would have substantially increased the sums available for this service to the extent that for the third year after the enactment of the law, $35,000,000 could have been spent.[16]

It is quite evident that the "Grants to States for Emergency Maternity and Infant Care" is simply an extension of an already existing service. Its importance comes from the fact that it is one further step in an orderly procession of events which leads ultimately to politically controlled health service. The medical profession has retreated another step from the position it took in 1929 when it success-

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fully opposed such a program.

The details of the plan follow a well-known pattern. Congress approved an appropriation of $1,200,000 "for grants to States . . . to provide, in addition to similar services otherwise available, medical, nursing, and hospital maternity and infant care for wives and infants of enlisted men".[17]*

The eligibility of persons for this service depends upon status in the armed forces. Wives of enlisted men, and children under one year of age, excluding families of commissioned officers, master, major, first, technical, staff or platoon sergeants of the Army, chief, first and second class petty officers of the Navy, etc., are eligible to receive service.

The Secretary of Labor is authorized to make allotments to states which have submitted approved plans whereby a state health agency sets up and administers the program. On March 30, 1943, it was reported that 28 states had presented approved plans and the "completion of arrangements for the entire U. S." was expected thereafter.[18]

The real significance of this development lies in the fact that it is another step in the sequence of events leading to the control of health service by the government. While this development, in and of itself, is of relatively little importance, it is conceivable that it may constitute another contributing factor in helping to break down public resistance to a government controlled health program.

THE WAGNER-MURRAY-DINGELL BILL

A retrospective glance at the events leading up to the present situation in the field of medical care makes the proposals incorporated in the Wagner-Murray-Dingell Bill seem a natural and reasonable consequence. The provisions of the bill come as the logical sequel to its predecessors.

Coverage for dependents, the provision of hospitalization benefits and the supervision of medical service by the Surgeon General can all be traced to the Social Security Act, the Elliot Bill, etc. It is impossible to review the present proposal without being conscious of the fact that it is the culmination of similar proposals from many sources.

Being one of the most comprehensive legislative proposals that Congress has been asked to consider, it is, of course, impossible to discuss here all of the details of the bill. It will, therefore, be necessary to confine our consideration to those portions that apply particularly to the medical and hospitalization benefits. The bill is designed

> **"to provide for general welfare; to alleviate the economic hazards of old age, premature death, disability, sickness, unemployment and dependency . . . to establish a Federal system of medical and hospitalization benefits; to encourage and aid the advancement of knowledge and skill in the provision of health services and in the prevention of sickness and premature death".[19]**

In order to make the program available for a large percentage of the population, the categories of eligible persons have been expanded. To those individuals who are now eligible to participate in the Social Security program, have been added self-employed persons, farmers, domestic servants, employees of non-profit institutions, etc.

All eligible individuals may make application for themselves and their family dependents for the following services:

1.—"General Medical Benefits", including all services furnished by a legally-qualified general practitioner (of the patient's own choice) in the home, office, hospital or elsewhere, including diagnostic, and therapeutic treatment and care, and periodic physical examination. Local lists of participating physicians will be maintained. Patients may be required to pay a fee for "first service or . . . each service in a spell of sickness or course of treatment".

2.—"Special Medical Benefit" which includes "services requiring special skills or experience" by a qualified physician who is a "specialist" in a particular type of service. Such services are likewise available in home, office, hospital and elsewhere, but only upon the advice of a general practitioner. Specialists will be designated by the Surgeon General "in accordance with general standards previously prescribed . . . utilizing standards and certifications developed by competent professional agencies".

3.—"Laboratory Benefits" which includes "necessary laboratory or related services, supplies or commodities" (outside the hospital) and including "chemical, bacteriological, pathological, diagnostic and therapeutic x-ray, and related laboratory services, physiotherapy, special appliances prescribed by a physician", etc. Such services may be limited in amount.

4.—"Hospitalization Benefits" will be available for

*An appropriation of $4,400,000 has been approved by Congress for this program for the fiscal year ending June 30, 1944.

all types of illness except mental and neurotic diseases, tuberculosis after diagnosis, and workman's compensation cases. Benefits ranging from $3 to $6 per day are available for a maximum of 30 days during the first year. If funds will permit, the maximum number of days for a subsequent year may be increased to 90. Payments may be made direct to the "participating hospitals", within the limits provided, "such payment to be full reimbursement for the cost of essential hospital services, including the use of ward or other least expensive hospital facilities compatible with the proper care of the patient". To be accredited, a hospital must provide "all necessary and customary hospital service", afford adequate professional service, personnel and equipment, and supply all necessary reports, etc.

The direction and administration of the provisions of this portion of the Act are within the powers of the Surgeon General of the Public Health Service, who is "authorized and directed to take all of the necessary and practical steps to arrange for the availability of the benefits" provided. Upon this office falls the responsibility of entering into contracts with various agencies, institutions, persons and groups for the provision of "services, facilities, supplies and commodities" and "to pay fair, reasonable and equitable compensation for such services or facilities".

To advise the Surgeon General concerning the administration of these services, a National Advisory Medical and Hospital Council is established. This Council is to consist of the Surgeon General, as chairman, and sixteen appointed members, selected from a panel of names submitted by various lay and professional organizations concerned with and informed on medical, hospital and related benefits and services.

It is the function of this Council to advise the Surgeon General concerning (1) professional standards for general and special medical benefits; (2) designation of specialists; (3) coordination of professional services; (4) standards for participating hospitals; (5) methods of compensation for medical and hospital services; (6) studies and surveys; (7) grants-in-aid for education and research; and (8) special boards, etc.

The "Guiding Principles and Provisions for Administration" include, (1) free choice of physician, subject to consent of the practitioner; (2) designation of properly qualified physicians as "specialists"; (3) methods of administration and reimbursement that will ensure prompt and efficient care, promote personal physician-patient relationships, provide professional incentives for advancement, stress preventive medicine and economy; and (4) payments to practitioners made according to (a) fee-for-service, (b) per capita, (c) salary, whole or part time, (d) fee-per-session, or (e) a combination or modification of these bases.

The Surgeon General is authorized to "establish necessary and sufficient hearing and appeal bodies to hear and determine complaints" from practitioners, hospitals and individuals eligible for benefits. In disputes involving professional practice or conduct, the hearing body shall have proper professional representation.

Although this proposal contains some features which are the natural outgrowth of previously introduced bills, it provides a significant step in the series of events leading to compulsory health insurance. In setting up the machinery for a nation-wide medical care and hospitalization program, the bill is directed at the solution of a serious social and economic deficiency. In spite of the fact that it proposes a departure of no small extent from the traditional and customary practice of medicine, it is impossible to view it as an unexpected and revolutionary suggestion. The events of several years have been pointing to this very proposal.

SIGNIFICANCE OF ACTIVITIES

Into a pattern of social and economic need, which is the result of (1) scientific advances which have increased the cost of health care, (2) the insistence of the public for the benefits of these advances in medical knowledge, and (3) the gradually increasing acceptance of governmental control in health services,[20] has developed a series of political activities.

It is evident from the course of events that slowly, but with perceptible progress, advances are being made toward the development of a program in which the government will become the main financial support of, and controlling agent for, the practice of medicine. The fact that plans for compulsory health insurance have been introduced in England and Canada, with the favorable support of a substan-

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tial proportion of the population in both instances, does not strengthen the position of the advocates for a continuation of the voluntary system.

Because of its specific proposals, the Wagner-Murray-Dingell Bill is the most significant of all recent political activities in the field of health insurance. By reason of its scope and the obligatory participation of a large majority of our working population, some of the principal shortcomings of voluntary plans are overcome. Eliminated are the difficulties caused by cancellation, restricted spread of risks, the inability to emphasize preventive medicine, and services limited to partial coverage, which, according to Maslow, contribute to make the voluntary scheme inefficient, expensive and incomplete.[21]

In contrast, the criticisms of inefficiency due to red tape and "bureaucracy", malingering, and lowered professional standards,[22] by the opponents of compulsory health insurance plans, lose much of their effectiveness because no sound, workable program is offered as a substitute. The medical profession, in opposing this bill, must assume the unenviable task of attempting to persuade the public to refuse this plan in the hope that some better program may eventually be developed through professional sponsorship. No nation-wide plan has been officially endorsed by the medical profession, and for several years many doctors viewed with suspicion any attempt to organize prepayment plans for health services. It is, therefore, not surprising that many people have eagerly welcomed the Wagner-Murray-Dingell Bill, in spite of its apparent weaknesses, because no better plan seems likely.

With that portion of family incomes which exceeds the necessary expenditures for subsistence, and from which payments for health services must come, being drained off in ever-increasing amounts by taxes, the need for some method of spreading the cost of care increases. The advocates of compulsory health insurance indicate no tendency to discontinue their efforts, and the defeat of this bill, which is not at all certain, can only be a temporary stop-gap.

CONCLUSION

In the evolving social pattern of our present democratic philosophy, there is to be found an ever-increasing tendency to accept the theory that the health of the individual is not only his concern but also the concern of society as a whole. Consequently, some method of spreading the costs of medical care will inevitably come.

There is considerable diversity of opinion among authorities concerning the effectiveness of the voluntary system on the one hand, and the compulsory system on the other, in providing an adequate solution to the problem. In recent events, the advocates of the compulsory scheme have made significant progress by the expansion of those health services that are now under the supervision and control of the government, and in providing definite proposals for a nation-wide health insurance system.

The Wagner-Murray-Dingell Bill contains a comprehensive health program which parallels the most recent developments in Britain and Canada, and must be considered as a serious threat to the traditional practice of medicine. It has acknowledged faults and shortcomings, but, since no other proposal for a nation-wide system of comprehensive health service seems probable, it has been reecived enthusiastically by many influential groups.

The only effective method of silencing the advocates of a compulsory health program is the development of a sound, practicable and comprehensive medical service plan. Only aggressive action, with specific proposals, instead of criticisms, can offset the progress made by political agencies.

The implications are evident. In the light of recent events, it is clear that nothing short of a full medical service plan will suffice. Any program suggested must meet full medical needs regardless of an individual's circumstances or geographical location.

Then, too, time is an important factor. As it is, the profession is now on the defensive and delay may be disastrous. Whatever is done must be undertaken immediately.

The need for the program has been sufficiently established, and for the most part, the essential facilities are available. It now remains for the profession to either utilize the experience of the voluntary efforts that have been expended in the field of medical care plans in organizing a prepayment medical service program, nation-wide in scope and comprehensive in coverage, or to prepare to relinquish much of its freedom of enterprise.

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1114 People's National Bank Building.

Floral Eponym (9)

BARTONIA DECAPETALA—PURSH

Benjamin Smith Barton, (1766-1815) was the son of an Episcopal clergyman and the brother of David Rittenhouse. He naturally "belonged" in Philadelphia. He studied drawing under Major Andre when the latter was a prisoner of war. He began his medical studies under William Shippen, Jr. Later he studied in London, Edinburgh, and Gottingen, taking his M. D. at the latter place. When he returned to Philadelphia, the chair of Natural History and Botany was created for him in the College of Philadelphia. Upon the death of Benjamin Rush he became the professor of the Theory and Practice of Medicine. He started the Medical and Physical Journal, the third medical journal in the United States. Because of his "Essay toward a Materia Medica of the United States", he has been called the Father of American Materia Medica. But his chief interest was Botany, although his health precluded his pursuing field studies. In 1807 when Thomas Nuttall came to America, he and Barton became close friends. Nuttall had but scant means and Barton an equally scant store of health. They joined forces and Nuttall set off to explore the northern and northwestern parts of the United States.

A number of plants have been named Bartonia but few of the names have "stuck". Nuttall named two cactus-like plants Bartonia superba and Bartonia polypetala. The Bartonia of Muhlenberg is placed now in the Gentian family. The Bartonia of Sims is now Mentzelia. M. Lindleyi, Torr. and Gray is sometimes listed in the catalogues as Bartonia aurea. M. decapetala (Bartonia decapetala, Pursh) is found from Dakota to Texas. It is commonly called Prairie Lily or Gumbo Lily.

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TRIPLETS—A CASE REPORT

B. C. GRIGSBY, M.D.,
Bonny Blue, Virginia.

I have delivered babies in all types of homes, and under all kinds of conditions. Once we borrowed everything from the neighbors, except the baby, but the greatest thrill for me in this business came on the morning of March 28, 1943—the delivery of full term triplets.

About 3:00 A. M., I was called to see Mrs. B. F. K., who was in labor. This lady is 38 years of age, G. VII, P. VI. She had her last menses the latter part of June, 1942. On August 8, 1942, she had her tubes ligated and at the time of the operation it was noted that she was pregnant.

Her pains were not very hard and were far apart. On examination, a breech with one foot down was found presenting with the cervix completely dilated and effaced. The waters were bulging and these were ruptured. An extraction of the baby was made synchronous with her pains—a boy—weight 7 pounds.

On palpating the abdomen, another fetus was felt, and on vaginal examination, another breech with one foot down was found. This baby was delivered in the same manner, as number one—a girl—weight 7 pounds.

Palpating the abdomen again, I felt a third baby. On internal examination, I found the third bag of waters; these were ruptured, and a vertex was presenting. An internal version and extraction was performed. This was a boy—weight 6 pounds, 12 ounces. Incidentally, there was a loose knot in this baby's cord. The anesthetic used was ether—open method.

Soon after the babies were delivered, she was profoundly shocked. This was immediately treated, and she reacted nicely.

There were three placentae; two were fused, and the third was off to itself, reminding one of a placenta succenturiate.

All three babies are normal, and were placed on a formula. At the present time, all are doing well, with the little girl out-growing the boys.

On account of whooping cough being in the neighborhood, they were given pertussis combined vaccine—

3rd day ½ cc.
7th day 1 cc.
11th day 1 cc.
15th day 1 cc.

They have not taken whooping cough.

The mother had an uneventful puerperium—thanks to sulfanilamide. She remained in bed two weeks, but wanted to get out at the end of the first week.

I went down to see the babies on May 4th and the mother was doing most of her house work, and the family wash.

The American Home Products Corporation

Announces that Knox Ide has been elected president and Walter F. Silbersack executive vice-president and general manager of the corporation, manufacturer of drugs, foods and household products. Mr. Ide has been executive vice-president of the corporation and Mr. Silbersack has been vice-president in charge of all advertised products.

Their promotions follow the election of Harry S. Howard, former president of American Home Products, as president of Wyeth, Inc., the great new ethical drug company which American Home Products has formed as a wholly-owned subsidiary.

A Streamlined Process of Penicillin Production,

Resulting from two years' research in the Parke, Davis Laboratories, promises to substantially cut down the production time required, according to a statement of the General Manager of the Company. He stated that the present method of producing penicillin requires from 6½ to 14 days, but they have advanced their methods to where they can produce in 2½ to 3 days without using cumbersome equipment.

This company is now regularly supplying penicillin to the government and has recently expanded its facilities for producing the new "miracle" drug.

THE NATURE AND MANAGEMENT OF COUGH

PORTER P. VINSON, M.D.,
Medical College of Virginia,
Richmond, Virginia.

Cough is a sudden, expulsive, respiratory effort that may be either non-productive or accompanied by evacuation of material from the mouth, pharynx or tracheobronchial tree. This explosive expiration may be noisy or relatively quiet, infrequent or continuous, and simple or spasmodic, depending on the nature of the exciting lesion and on the sensitivity of the cough reflex.

Many types of cough have been described. Such terms as "habit cough", "cigarette cough" and "stomach cough" have been employed in differentiation, whereas the terms "dry" or "productive" indicate whether the cough is unaccompanied by, or associated with, secretion.

The cause of cough may be either intrathoracic or extrathoracic in origin, but the chief factor that determines severity and frequency is the irritability of the cough reflex. Ordinarily, any lesion in the hypopharynx, larynx or thorax may be expected to produce cough, but many patients with gross lesions in these localities have little, if any, cough. The occurrence of a primary malignant lesion in the tracheobronchial tree, without cough or other pulmonary symptoms, has been recorded many times. In contrast to the patients with no cough, yet presenting lesions that are usually associated with irritation of the cough reflex, are those patients who cough frequently, sometimes incessantly, without production of secretion, in whom no organic lesion can be detected. This type of cough is similar to the frequent clearing of the throat in the nervous after-dinner speaker, and a nervous basis can usually be ascertained in patients with this kind of cough.

Too often cough is considered a disease rather than a symptom of a disease, and efforts are made to control it without determining the cause or without considering the desirability of reducing or abolishing the cough reflex. Cough should be encouraged in all patients who have secretion in the tracheobronchial tree. Sedatives are frequently administered to patients who are bleeding from the lung, with the result that the cough reflex is abolished, blood is retained in the bronchi and infection ensues. All secretion should be evacuated from the tracheobronchial tree, and ordinary cough provides the most effective and comfortable method of evacuation. Administration of drugs that reduce the cough reflex have little value in controlling bleeding from the lung.

In a recent report, Phelps[1] stated that of 67 patients who were found to have tuberculous tracheobronchitis 65 were women. The preponderance of women who suffer from tuberculous lesions in the trachea and bronchi is probably the result of voluntary control of cough, with retention of secretion laden with tuberculosis bacilli in the tracheobronchial tree. Almost all patients whom I have found to have a tuberculous lesion in the trachea or bronchus have been women, unless the lesion was secondary to ulceration of a tuberculous mediastinal lymphatic node into the lumen of a bronchus.

Another interesting fact is that patients who have tuberculous tracheobronchitis are particularly tolerant to bronchoscopy, which indicates that there is reduction in the irritability of the cough reflex.

There is universal agreement that post-operative pulmonary complications, especially so-called post-operative pulmonary atelectasis, result from interference with normal respiratory function. A major factor in reducing the efficiency of pulmonary activity after operation is the administration of excessive doses of a sedative, particularly morphine or one of the barbiturates. In an effort to increase post-operative comfort by administration of a sedative, the cough reflex may be diminished or abolished, and serious pulmonary complications may ensue.

When cough is chronic and not associated with production of secretion, administration of a sedative drug that may be habit forming is inadvisable. Cough of this type can usually be controlled voluntarily or by the use of menthol lozenges or fruit flavored candy drops.

SUMMARY

1. Cough is a symptom and not a disease.

1. Phelps, K. A.: Some Further Observations on Tuberculous Tracheobronchitis, Tr. Am. Bronch.-Esoph. Assn. 77, 1942.

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2. Treatment should be directed to the underlying cause.

3. Cough that is productive of secretion is beneficial and should be encouraged.

4. Non-productive cough is usually caused by emotional factors, is unnecessary and can be controlled voluntarily. Drugs should not be employed in treatment.

5. Sedative drugs inhibit the cough reflex and when administered in excessive amounts after operation may result in serious pulmonary complications from retention of secretion in the tracheobronchial tree.

PUBLIC HEALTH

I. C. RIGGIN, M. D.,
State Health Commissioner of Virginia

The report of the Bureau of Communicable Diseases of the State Department of Health for September, 1943, compared with the same month in 1942, and for the period of January through September, 1943, compared with the same period in 1942, follows:

	SEPT. 1943	SEPT. 1942	JAN.-SEPT. 1943	JAN.-SEPT. 1942
Typhoid and Paratyphiod Fever	31	33	165	185
Diarrhea and Dysentery	808	552	4,702	3,941
Measles	73	17	9,392	4,803
Scarlet Fever	91	93	1,230	872
Diphtheria	36	61	239	332
Poliomyelitis	11	13	41	32
Meningitis	10	7	731	127
Undulant Fever	2	4	28	26
Rocky Mountain Spotted Fever	9	4	51	42
Tularemia	5	0	37	31

BLOOD PLASMA STORES

The following hospitals have received grants from the U. S. Public Health Service for the purpose of setting up blood plasma processing and storage facilities for liquid or frozen plasma to be made available for emergency medical service in the following amounts:

King's Daughters Hospital, Portsmouth---500
Lynchburg General Hospital, Lynchburg--380
Norfolk General Hospital, Norfolk-------288
Hospital of St. Vincent de Paul, Norfolk--282
U. S. Marine Hospital, Norfolk---------915

In addition to the grantee hospitals many other hospitals in Virginia have set up their own blood banks, and considerable quantities of plasma are also available from those sources.

Besides the liquid plasma, there are 1200 units of dried plasma now stored in strategic points in defense areas which are available for use in case of emergency for *any* cause.

It is expected that these stores will be freely used whether the emergency be due to enemy action or civilian catastrophe.

Superintendents of institutions which are not equipped with Office of Civilian Defense blood plasma banks may in an emergency obtain necessary supplies upon application to their respective local chiefs of emergency medical services.

In instances where a disaster occurs in a community in which the local chief is not available, telegraphic application should be made direct to the state chief of medical service, Dr. I. C. Riggin, State Department of Health, Richmond.

Arrangements have been developed with the Civilian Air Patrol to transport blood plasma and other medical supplies by plane to any point in the state.

In this connection, it will not be necessary for landing fields to be available at the point of need as especially designed parachute equipment recently has been perfected that will enable the pilots to drop supplies safely at the indicated locations.

CASE REPORT OF MATERNAL DEATH

MATERNAL HEALTH COMMITTEE
MEDICAL SOCIETY OF VIRGINIA

The patient was a twenty-one year old white woman who had had one previous pregnancy. She was not seen by a physician during the present pregnancy until the eighth month when she precipitately delivered, before the arrival of a physician, a premature infant weighing three pounds. Four days before the delivery epigastric pain associated with vomiting and diarrhea had occurred and persisted. Fever and abdominal distention were present. After the premature delivery the patient was referred to a hospital where she was admitted twenty-four hours postpartum.

At the time of admission the patient was acutely ill with marked abdominal distention. Temperature 102.4. Pulse 160. Respirations 20. Urine showed albumin and a few granular casts. Rbc 4.80, Hemoglobin 84 per cent, wbc 7,550, N.P.N. 60 mgm. and total protein 5.1 mgm.

Treatment consisted of Wanganstein suction prostigmine, rectal tube, and repeated blood transfusions. Two days after admission a mass separate from the uterus was palpated in the right lower quadrant. Sulfathiazole was given and the patient placed in an oxygen tent. An x-ray of the chest showed what was thought to be either multiple infarcts or patchy atelectasis.

Two days later the abdominal mass was larger and as the patient seemed to be getting worse, it was decided to drain the mass. A McBurney incision was made under local anesthesia. No definite abscess was found, but the abdomen was filled with foul smelling milky-appearing fluid. Two drains were placed in the abdomen. Her condition grew gradually worse (temperature 105) and she died twenty-eight hours after the incision and drainage.

A postmortem examination showed the peritoneal cavity filled with pus. The distal two thirds of the appendix was gangrenous and had perforated in three areas.

COMMENT

This case has been classified by the committee as a non-obstetrical (medical) death. The autopsy showed the cause of death to be a general peritonitis resulting from a ruptured gangrenous appendix. The pregnancy and the premature delivery were coincidental. Obviously of course the patient neglected herself in that she should have consulted a physician at the time of onset of the abdominal pain, when an early diagnosis and prompt appendectomy would probably have saved her life. The diagnosis of appendicitis during pregnancy particularly in the latter months is usually difficult. The treatment of appendicitis during pregnancy is the same as the treatment of appendicitis at any other time. The appendicitis in this patient was simply an accidental complication of the pregnancy, and as in practically all the diseases accidentally complicating pregnancy, it is apt to be more severe and have a graver prognosis during pregnancy than in the non-pregnant individual. Miscarriage or premature delivery is a common occurrence in patients seriously ill with accidental complicating diseases, and when it does occur, as in this present patient, it increases the gravity of the prognosis.

This case is presented simply to point out the fact that not all patients who die during pregnancy or the puerperium necessarily die from obstetrical causes. The lesson to be learned from the present case is that appendicitis can and does occur during pregnancy and the puerperium, and that it is essential to recognize and treat it promptly.

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MENTAL HYGIENE NOTES

Neuropsychiatric Society of Virginia.

The fall meeting of this Society was held in the ampitheatre of the University of Virginia Hospital, Charlottesville, October 13, 1943.

The meeting was called to order by the President, Dr. Joseph R. Blalock. Dr. O. B. Darden, Vice-President, and Dr. Jas. Asa Shield, Secretary-Treasurer, were present.

The first presentation was a report on lobotomy. Dr. Meyersburg gave a summation of observation on the cases treated at the University of Virginia Hospital after Dr. Wilson's preliminary remarks at which time he stated they were interested in studying these cases in every respect before and after operation and that they would be glad to have the opportunity of studying any case that the members of the Society could make available. Dr. Meyersburg said that the most notable change was in the anxiety, as pointed out by other observers, but added that ordinary anxiety and every day concern were not changed. He said the mood swings occurred but anxiety was lacking. In acute hallucinosis he said there was not the concern, and he felt in some of the cases the delusions had cleared. He pointed out that somatic complaints continued, but this hypochondriasis was not as debilitating. He stated the patients are slowed up in their mental drive, in their motor drive, that they are less sensitive, and are more expressive of their emotional mood—loud laughter or rather profound rage; that this mood is transient. Dr. Meyersburg said these people had had some difficulty in adaptation, that anything more than simple demands was beyond their capacity. He brought out the fact that one of their cases had developed convulsions, first having status epilepticus, then later two convulsions, followed by another some weeks after that. He went on to say they had treated several classes of mental illness.

The cases were then presented by Dr. Wilson.

Dr. Rymarkiewiczowa brought out the fact that some formal psychological testing did not seem to bring out the impairment of menetal function which was definitely observed in these individuals; with the Rorschach and to a certain extent with the Kohs Block Designs changes in mentation were recorded. She also made the very interesting observation that these people had much more difficulty in recalling, as brought out by the noun test—with eyes closed they could name very few but with eyes open they did fairly well with the objects around to observe.

Dr. Crutchfield then presented very concisely and vividly the operation that he performs; he brought out the fact that people with incurable illnesses may be relieved of at least some of their worry and apprehension and, therefore, their malignancy or permanent disability would be endured with less discomfort on their part.

The second presentation was a paper by Dr. Page Newbill—"Occurrence of Brain Tumors in the Race and Sex, With Special Reference to Meningiomas". He pointed to the fact that there was some variation from the expectancy in meningiomas found in the negro race. However, he said that in both his series and the observation of other surgeons, according to communication, it was revealed that a very small number of negroes are operated on for meningioma.

A business meeting followed at which time Dr. Neale, of the Medical College of Virginia, was elected to membership, and Dr. Ransome, of the Veterans Administration Facility, Roanoke, and Dr. Bridgewater, of the Colony, Petersburg, were proposed for membership—their names will be passed on to the executive board for consideration.

The meeting then adjourned after which a delightful dinner was enjoyed by the members and guests at the Farmington Country Club.

Members present: Dr. Blalock, Dr. Darden, Dr. Wilson, Dr. Crutchfield, Dr. Masters, Dr. Gayle, Dr. Brent, Dr. Henry, Dr. Stone, Dr. Strickler, Dr. Saunders, and Dr. Shield. Guests present: Dr. Ransome, of Roanoke; Dr. Neale, of the Medical College of Virginia; Dr. Bridgewater, of the Colony at Petersburg; Dr. Rymarkiewiczowa, Dr. Meyersburg, Dr. Newbill, and others on the staff of the University of Virginia Hospital.

JAS. ASA SHIELD,
Secretary.

Book Announcements

Books received for review are promptly acknowledged in this column. In most cases, reviews will be published shortly after the acknowledgment of receipt. However, we assume no obligation in return for the courtesy of those sending us same.

Reaction to Injury. Pathology for Students of Disease Based on the Functional and Morphological Responses of Tissues to Injurious Agents. By WILEY D. FORBUS, M.D., Professor of Pathology, Duke University and Pathologist to the Duke Hospital. Baltimore, The Williams and Wilkins Company. 1943. xix-797 pages. 532 illustrations, 20 of which are in color. Cloth. Price $9.00.

Synopsis of Tropical Medicine. By SIR PHILIP MANSON-BAHR, C.M.G., D.S.O., M.D., F.R.C.P., Senior Physician to the Hospital for Tropical Diseases, Royal Albert Dock and Tilbury Hospitals; Consulting Physician in Tropical Diseases to the Dreadnought Seamen's Hospital, London; etc. The Williams and Wilkins Company, Baltimore. 1943. 224 pages. Cloth. Price $2.50.

Fractures and Dislocations for Practitioners. By EDWIN O. GECKELER, M.D., Fellow of the American College of Surgeons; Fellow of the American Academy of Orthopaedic Surgeons; etc. Third edition. A William Wood Book. The Williams and Wilkins Company, Baltimore. 1943. x-361 pages. Cloth. Price $4.50

New and Nonofficial Remedies, 1943, containing descriptions of the articles which stand accepted by the Council on Pharmacy and Chemistry of the American Medical Association on January 1, 1943. Cloth. Price, postpaid, $1.50. Pp. 772. Chicago: American Medical Association, 1943.

The current volume of New and Nonofficial Remedies continues, with minor improvements, the convenient and informative system of classification adopted for the 1942 volume. The terminology of the official drugs has been revised to conform to the U.S.P. XII and the N.F. VII. The valuable bibliographic index now appears on white instead of "India Tint" paper, and before the general index which is now placed at the end of the book. To one accustomed to the old format of New and Nonofficial Remedies the new arrangement appears at first somewhat awkward but with a little use the wisdom and convenience of the changes becomes more and more apparent.

Textual changes and revisions do not appear to be as numerous as in some previous editions. The chapter, Digitalis and Digitalis-like Principles and Preparations, has been extensively and somewhat radically revised to keep pace with the changing attitude toward this drug. It is understood that in this revision the Council had the aid of the foremost digitalis authorities, pharmacologists and clinicians alike. Other revisions have been made obviously to keep the book up to date with medical knowledge.

No one can examine the successive volumes of New and Nonofficial Remedies without increasing his profound respect for the faithful and unselfish work of the Council on Pharmacy and Chemistry in the cause of rational therapeutics. Each volume represents a progressive milestone on the road of medical science.

Rehabilitation of the War Injured. A Symposium Edited by WILLIAM BROWN DOHERTY, M.D., and DAGOBERT D. RUNES, Ph.D. Philosophical Library, New York. 1943. 684 pages. Illustrated. Cloth. Price $10.00.

This is a collection of articles previously published in various medical journals of the U.S.A., U.S.S.R., and Great Britain, all of which are readily available. This presents nothing new and does not fill any need in the medical literature.

The subject matter is presented under several general classes. The first deals chiefly with the experiences of the British in the difficult matter of the rehabilitation of the cases of "head injury" and the psychic response of these men to injury.

The reconstructive and plastic group unfortunately, and probably of necessity, presents many of the familiar faces previously seen and better illustrated in the original articles. The principles are sound and are, of course, well known by all who are engaged in this highly specialized branch of surgery.

Considerable emphasis seems to be put on the psychic reaction of the patient to orthopedic injuries and the shortened convalescence of these men when early function is resumed and taught. This point seems worth remembering. The remainder of the section on the orthopedic aspects of rehabilitation deals with vocational rehabilitation, amputation stumps and physical therapy.

The immersion foot syndrome is interestingly described by James C. White. He indicates that the painful swelling seen following exposure of the feet to cold is based upon a different mechanism than the painful swelling of feet and legs seen in survivors of shipwreck in warm water.

It seems unfortunate that the role of the sympathetic nervous system in controlling pain and disability after injury to extremities is so lightly treated as to be almost ignored.

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VOL. 70 NOVEMBER, 1943 No. 11

Claude Bernard Bowyer

THIS year when our very existence as a nation depends in great part upon our factories; a year when labor is driving and capitalism has a back seat; a year when industrial plants do not know night from day, or Sunday from Monday, and a time when "Absenteeism" is a dread disease; it seems particularly appropriate that the Medical Society of Virginia should have chosen for its new President a man whose special forte is industrial medicine, as well as a man whose ability and experience, both medical and administrative, seem to have more than adequately prepared him for such a responsibility.

A doctor by predestination as well as election, for there has been a physician in each generation of his family since the Revolution, Dr. Claude B. Bowyer was born in Washington County and, as a matter of fact, on the campus of Emory and Henry College, Christmas Day, 1880. He got his first taste of industrial medicine when he engaged in a mining practice in Stonega, Wise County, Virginia, following his graduation from the Medical College of Virginia in 1906. This apparently was indelible for, although he came to Richmond again three years later to interne at Memorial Hospital, as soon as he had finished that training he took the position he still holds—that of Chief Physician for the Stonega Coke and Coal Company.

Dr. Bowyer's interest in industrial medicine has not been localized, however. In 1912 he took a special course in his chosen field at the New York Postgraduate Medical School, and still more of this work at Harvard in 1921. He is widely known for the prominent part he played in the framing of Virginia's Workman's Compensation Laws, and is a charter member of the College of Industrial Physicians and Surgeons of the American Medical Association.

As to Dr. Bowyer's administrative abilities, perhaps nothing gives more credence to them than his development of the Stonega Hospital as an industrial institution where he now has some eight assistants. In addition to this Dr. Bowyer organized the Clinch Valley Medical Society, and is a charter member of the Wise County Medical Association. Moreover, he was on the Council of the Medical Society of Virginia from 1918 to 1942, and is on the Board of Visitors of the Medical College of Virginia.

CLAUDE BERNARD BOWYER, M.D.,
President, Medical Society of Virginia.

Outside the field of medicine our new President's activities are equally varied. A physician, a banker, a golfer and a president of a country club, gosh! what a combination. For good measure he is a sociable Kiwanian, a Methodist, a Democrat and a member of the Executive Board of Trustees of Emory and Henry College, from which he received his academic degree in 1902.

How this remarkable man has remained a bachelor is an enigma.

In any case, the Medical Society of Virginia has every reason to look forward to a stimulating and efficient year with a man for its President whose record, both in the field of medicine, and in his community is one of distinguished service, and a man who has devoted thirty-five years to a subject more pertinent, more applicable, today than ever before. It is with confidence, and anticipation, then that we welcome Dr. Claude B. Bowyer.

D. B. C.

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Bathsheba

"And it came to pass in an eveningtide, that David arose from off his bed, and walked upon the roof of the king's house: and from the roof he saw a woman washing herself; and the woman was very beautiful to look upon." II Samuel 11:2.

THE woman was the wife of Uriah, the Hittite. Now Uriah was off fighting David's battles, so the king sent messengers and took her and possessed her. When the woman conceived, the king tried to bribe Uriah to lie with his wife and when that failed, he sent him to the front-line trenches, and that was the end of Uriah. With David, it was the beginning of his troubles. The Lord sent Nathan, the prophet, to admonish David, and even after David repented, the Lord was not pleased. "Howbeit, because of this deed thou hast given great occasion to the enemies of the Lord to blaspheme, the child also that is born unto thee shall surely die".

The record does not say what defense Bathsheba put up. It does say that she was beautiful to look upon, that she was virtuous and well thought of in the community, and that she was attending to her own business. It was a man's world that she lived in, and what she said was not recorded. Whatever it was, it was of no avail. She lost her honor, her husband and her son, and became just one of the king's wives.

Medicine, today, we fear, finds herself in the same situation. Because she is beautiful and useful and well thought of, Washington has cast covetous eyes upon her. She is inclined to extol her virtue and look to a sense of right and justice to save her. That just makes matters worse; it makes Washington all the more determined to possess her. What she needs is power, which in political language means VOTES.

Salerno

THE place that figures so prominently in the news of today, played a significant part in the history of Medicine. The School of Salerno flourished from the beginning of the ninth to the end of the fourteenth century. Like Montpellier in the beginning, Salerno was purely a medical school. Its origin is veiled in mystery. In the fourteenth century it was overshadowed by Montpellier and Bologna and was finally put out of existence by Napoleon. In its heydey it attracted students from all over the world so that it merited its medieval name, Civitas Hippocratica. It is noteworthy on six counts: 1. As the place where lay Medicine emerged from ecclesiastic domination; 2. It was at Salerno that decadent Greek Medicine was rejuvenated by Arabian learning; 3. The first medical-practice act in the western world (Persia may have anticipated Salerno) was enacted at Salerno. The home of Roger of Parma, the Surgeon; 5. Trotula; and, 6. The *Regimen Sanitatis Salernitanum.*

In the middle ages all knowledge, including Medicine, was confined to the monasteries. The monks practiced Medicine on the side, often going outside the monasteries to practice their healing art. This took them away from their religious duties so that various Church Councils in the XII century restricted this practice and finally stopped it entirely. Among the monastery schools in which Medicine was taught, the nearby Benedictine Abbey of Monte Casino was famous in the ninth century. Yet, in the School of Salerno most of the teachers were laymen. Jew, Saracen, Greek, and Roman met on equal terms. In fact, there is a tradition that the four founders were equally divided among these races.

The stream of Greco-Roman Medicine had almost run dry when about 1077 Constantinus Africanus located at Salerno and brought with him an encyclopedic knowledge of Arabian Medicine and a collection of manuscripts which he began translating.

His translations of the Aphorisms of Hippocrates, some of the works of Galen, and the Royal Book of Ali Abbas tremendously stimulated medical writing. Medicine, Surgery, and Anatomy were revolutionized by these new books. To the Arabian scholarship the Salernitans contributed a direct, practical attitude.

After Constantine the fame of Salerno spread rapidly. This was due in some measure to the interest that the rulers of the two Sicilies took in the School. As early as 1140 King Roger decreed that a physician before beginning practice should get the approval of the royal authorities "in order that the King's subjects should not incur dangers through inexperience of their physicians". Roger's grandson, Frederick II, made very explicit laws governing the teaching of Medicine. Before anyone entered the study of Medicine, he had to have three years of philosophic and literary studies. The medical course, itself, extended over five years and was followed by one year of assistantship to an experienced practitioner. He then came up for his examination before the University authorities. It all sounds quite modern for the Middle Ages.

In the middle of the twelfth century Salerno had a celebrated surgeon by the name of Roger of Parma. His teachings and conversations were taken down by his students and became the Surgery of Roger. This was used not only at Salerno but at Bologna as well, and its various modifications became the "Surgery of Roland", the "Surgery of the Four Masters", etc. The treatment recommended for injuries of the skull, stone in the bladder, and goiter, is especially noteworthy. The book was regarded as classic for three centuries.

Of the "Ladies of Salerno" Trotula was easily the most famous. Nearly everything connected with Salerno was surrounded by a certain amount of mystery; the origin of the School, and how Roger, the Surgeon, acquired so much from Paulus Aeginatae, to mention just two items. We would naturally expect a lot of mystery when we discuss its feminine aspects, and such, indeed, is the case. Modern scholars instead of clarifying the situation have made it more confused. By some, Trotula is said to have been a doctor and to have taught in the University, by others to have been a skilled midwife, and by still others that she did not exist at all and the name is merely a generic one for midwives. Many consider her to have been the wife of John Platearius of the well-known medical family of Salerno. She has been called Trotula, Trotta, Truta, Trocula, Trocta, Trothis, Dame Trot, Magistra Operis, Erotula, and Eros Juliae. She is said to have flourished before the advent of Constantine, but the work that bears her name is dated by scholars in the thirteenth century. Corner, who is a real authority on Salerno, says that "The Registers and Obituary of the Cathedral, which name many doctors and many women of all rank, do not apply the title, *medica*, to a single woman." Be that as it may, the work served as a textbook throughout Europe until the sixteenth century, and today, is a valuable source for gynecological and obstetrical knowledge (or lack of knowledge) of the Middle Ages. It was scattered all over Europe in manuscript form. Kate Campbell Hurd Mead lists five thirteenth century manuscripts, seven fourteenth century manuscripts, and seven fifteenth century manuscripts and says that the list is not complete. The work first appeared in print in 1544 at Strassburg. The Richmond Academy of Medicine has an edition printed in Leyden in 1572. It is more readily available in the collection of gynecological works of Israel Spach (1597) and Caspar Wolf (1566), later enlarged by Caspar Bauhin (1586). Recently, (1940) the Ward Ritchie Press has brought out an English translation by Elizabeth Mason-Hohl in an attractive little volume.

The most famous of all the works of the Salerno School is the Regimen Sanitatis Salernitatum, a didactic poem covering hygiene, anatomy, physiology, materia medica, etiology, significance of different signs, pathology, therapeutics, nosology, and practice

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of Medicine. This famous poem was translated into many languages and went through nearly 300 editions, one of which contained 3,520 verses. The following lines are from the translation of Sir John Harington:

The Salerne Schoole doth by these lines impart
All health to Eng.and's King, and doth aduise
From care his head to keepe, from wrath his heart,
Drinke not much wine, sup light, and soone arise,
When meate is gone, long sitting breedeth smart:
And after-noone still waking keepe your eyes.
When mou'd you find your selfe 'o Nature Needs,
Forbeare them not, for that much danger breeds,
Vse three Physicians still; first Doctor Quiet,
Next Doctor Merry-man and Doctor Dyet.

Societies

The Fourth District and Southside Medical Society

Held its annual meeting at the Southside Community Hospital in Farmville, September 28th, with Dr. B. H. Knight of Surry presiding. Other officers present were Dr. C. E. Martin, secretary-treasurer, and Dr. Wright Clarkson, chairman of the steering committee. There was an unusually large attendance.

The program was as follows: Traumatic Lesions of the Abdomen by Dr. Carrington Williams, Richmond; Immunization against Diseases of Today by Dr. W. Ambrose McGee, Richmond; Sterility by Dr. William Bickers, Richmond; Recognition and Management of Ruptured Ectopic Pregnancy by Dr. Thomas G. Hardy, Farmville; Report and Discussion of Abdominal Operations by Dr. George H. Reese, Petersburg; and Infectious Mononucleosis by Dr. Ray Moore, Farmville.

Dr. T. S. Jennings of Waverly was elected president, and Dr. Leta White, Petersburg, and Dr. C. E. Martin, Emporia, were re-elected corresponding secretary and secretary-treasurer respectively. Dr. Wright Clarkson, Petersburg, was also re-elected chairman of the steering committee. Dr. C. W. Scott, Burkeville, was elected to membership.

Resolutions were passed unanimously that the corresponding secretary be instructed to write the representatives in Congress with regard to Senate Bill 1161.

Following the business meeting, dinner was served in the hospital dining room.

C. E. MARTIN,
Secretary.

Roanoke Academy of Medicine.

At the annual meeting of the Academy the following officers were elected and entered upon their duties on October 1: President, Dr. A. M. Grosclose; vice-presidents, Dr. L. D. Keyser and Dr. J. B. Nicholls; secretary-treasurer, Dr. D. S. Garner. All are of Roanoke except Dr. Nicholls who is at Catawba Sanatorium.

Norfolk County Medical Society.

At the regular meeting of this Society on October 18th, the program was presented by the Naval Hospital Staff as follows: Treatment of Burns by Lt. Commander A. J. Mourot; Diagnosis and Treatment of Intervertebral Disc by Lt. H. H. Karr; Discussion and Demonstration of the Strader Splint by Lt. Commander J. D. Wilson; and Use of Penicillin in Sulfa-resistant Gonorrhea by Lt. Commander D. E. Banks.

Dr. N. F. Rodman is president of the Society and Dr. Lockburn B. Scott, secretary.

The Medical Association of the Valley of Virginia

Held its semi-annual meeting at Stonewall Jackson Hotel, Staunton, on September 30, at 11:00 A. M., with Dr. N. M. Canter of Harrisonburg presiding. There was a good attendance including some of the doctors from the Woodrow Wilson Hospital. In addition to several clinical case reports, the following program was presented: Address by the President; Polypoid Tumors of the Colon by Dr. R. P. Bell of Staunton; Some Problems of Medical Edu-

cation Resulting from the War by Dr. J. P. Gray of the Medical College of Virginia; and The Dissecting Aneurysms of Aorta, with report of a case, by Dr. G. S. Hartley of Clifton Forge.

Dr. Theron Rolston, New Hope, was elected president for the ensuing year; Dr. Julian Beckwith of Clifton Forge and Dr. Benj. B. Dutton of Winchester, vice-presidents; and Dr. H. G. Middlekauff of Weyers Cave and Dr. Harold W. Miller of Woodstock were re-elected treasurer and secretary, respectively. It was decided to hold the next meeting in Harrisonburg in May, 1944. Following the meeting, luncheon was served at the hotel.

The Piedmont Medical Society

Met at Farmington on September 17th, with an attendance of seventy-three. The program was presented by members of the staff of the Woodrow Wilson Memorial Hospital at Staunton. Lt. Colonel John H. Lyons spoke on "Prevention of Tetanus" and Major T. R. Tyson on "Marie-Strumpell Arthritis in Civilian Life and the Armed Forces". Both papers were freely discussed. A dinner followed the business meeting. Dr. Percy Harris, Scottsville, is president of the Society, and Dr. E. D. Davis, Crozet, secretary.

The Virginia Peninsula Academy of Medicine

Met in Newport News on September 20th, with 61 doctors in attendance. Lt. Colonel W. F. Martin of Langley Field spoke on "A New Operative Procedure for the Treatment of Pilonidal Cyst and Sinus". This was illustrated with motion pictures.

The Academy meets on the third Mondays in each month at the Coca Cola Building in Newport News. Dr. Waverly R. Payne is president and Dr. Robert H. Wright, Jr., secretary.

News

Southern Medical Association.

The Southern Medical meeting is to be in Cincinnati, November 16, 17, and 18, under the presidency of Dr. Harvey F. Garrison of Jackson, Miss. All activities—meetings and exhibits—are to be held in the three principal downtown hotels, within a block of each other, so that there will be no transportation worries, once doctors reach Cincinnati. Reservations should be made in advance. There is no registration fee at Southern Medical meetings. Further information may be secured from the Association headquarters, Empire Building, Birmingham 3, Alabama.

"Pioneers of American Medicine".

Pharmacy's role in World War II and its success in making America independent of foreign sources for supplies of vital drugs, such as digitalis, will be keynote topics at unveiling ceremonies for the fifth painting in the famed "Pioneers of American Medicine" series in Philadelphia November 5, during National Pharmacy Week.

The 1943 painting is entitled "the Father of American Pharmacy" and depicts Procter (1817-1872), studying a formula for the standardization of drugs while at work with an assistant in his laboratory. He edited the American Journal of Pharmacy and founded the American Pharmaceutical Association. His chief contribution, however, was the standardization of drugs for which there was a crying need because of the failure of compounds due to varying methods of preparation.

On this occasion, there will be a special exhibit of drug producing plants formerly imported, now cultivated in the United States.

In 1917, while a Navy medical corps pharmacist at Brest, France, Frank F. Law, president of John Wyeth & Brother, Inc., conceived the plan of creating an enduring monument in oils to American medical pioneers when he witnessed the marvels of American surgery among battle wounded. His dream came true five years ago when, at his behest, the Wyeth company commissioned Cornwell to begin the series.

Other paintings in the series, which are loaned to medical schools and medical societies, are "The Dawn of Abdominal Surgery", a tribute to Dr. Ephraim McDowell, depicting the world's first successful ovariotomy; "Beaumont and St. Martin", honoring Dr. William Beaumont, who pioneered in

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the study of the stomach's digestive functions; "Osler at Old Blockley", in honor of Sir William Osler, pioneer teacher of clinical medicine, and "Conquerors of Yellow Fever", a tribute to Drs. Walter Reed and Carlos Finley, whose work made possible construction of the Panama Canal, vital wartime lifeline. Twelve paintings are contemplated for this series, one to be unveiled each year.

Married.

Dr. William Hughes Evans and Mrs. Elizabeth Miller Williams, both of Richmond, September 29th. Dr. Evans is a graduate of the Medical College of Virginia, class of '36. Mrs. Evans is the daughter of Dr. Roshier Miller.

Lt. Wier Mitchell Tucker, M.C., U. S. Army, and Miss Linden Crawford, Rosemont, Pa., October 2nd. Dr. Tucker is a graduate of the Department of Medicine, University of Virginia, class of '42, and is a son of Dr. and Mrs. Beverley R. Tucker of Richmond.

Dr. Fred Eugene Hamlin and Miss Helen Betelle, Roanoke, October 9th.

Major Joseph M. Dixon, M.C.,

Has been assigned to temporary duty at the Medical College of Virginia where he will head the 313th Service Unit to relieve Colonel Paul L. Freeman. He was formerly stationed with the procurement and assignment of medical officers in Virginia. Dr. Dixon is a graduate of the Medical College of Virginia in 1935 and practiced at Roanoke before entering the Service.

The State Hospital Board,

At a meeting on October 14, named Dr. W. W. Riese of the Medical College of Virginia faculty to the position of consulting neuropathologist at the Eastern State Hospital, Williamsburg, and reported that Dr. George W. Brown had accepted the Board's offer as consulting physician at this hospital.

The prizes given annually in competition among State hospital staff members to encourage research and improved treatment of patients were given in the order named to Dr. I. S. Zfass and Dr. W. W. Riese for a paper entitled "A Preliminary Report of the Study of 200 Autopsy Cases at Eastern State Hospital, with Special Emphasis on Neuropathology and Brain Tumor in Old Age"; Dr. Simon Coren of Central State Hospital for "An Analysis of the Criminally Insane in Virginia"; and to Dr. Vincent E. Lascara, also of Central State Hospital, for his paper on "Neurospyhilis with a Two-Year Observation of the Comparative Therapeutic Effects of Inoculation Malaria and Artificial Fever Therapy".

These papers were judged by Dr. Winfred Overholser of St. Elizabeth's Hospital, Washington, D. C.

Dr. Charles H. Dow,

Chilhowie, has been promoted from Captain to Major in the Medical Corps, U. S. Army. He is now stationed at the Pueblo Army Air Base at Pueblo, Colorado.

Commander J. F. Terrell, MC., USN.,

Has recently been appointed executive officer to the commanding officer of the new Pleasanton Naval Hospital in California. The hospital will house approximately 1000 beds and is expected to expand as the war progresses. Commander Terrell is a native of Essex County, and is a graduate of the Medical College of Virginia.

Dr. C. C. Fabric,

For a time associated with the Hercules Powder Company at Radford, is now in Arizona, at 2001 North Park Avenue, Tucson.

Dr. Edward V. Siegel, II,

After practicing for a time in Hampton, is again at the University of Virginia Hospital, Charlottesville, where he took his intern work after graduating in 1940.

Salmon Lectures for 1943.

Dr. Abraham A. Brill, one of the nation's leading psychoanalysts and an authority on the teachings of Dr. Sigmund Freud, will deliver the Salmon Lectures for 1943 at the Academy of Medicine, 2 East 103rd Street, New York, on three successive Friday evenings—November 5th, 12th and 19th.

The Salmon Committee on Psychiatry and Mental Hygiene, appointed by the Council of the New York Academy of Medicine which is sponsoring the lectures, has extended an invitation to all members of the medical profession and their friends to attend.

The Salmon Lectures, now in their eleventh year, are delivered annually by an outstanding specialist in the field of psychiatry, neurology or mental hygiene, either in this country or abroad, who has made the greatest contribution to his specialty during the preceding year.

Dr. Brill, who at one time served as clinical psychiatrist at Austalt Burgholze in Zurich, Switzerland, is now Lecturer in Psychoanalysis and Abnor-

mal Psychology at New York University, Lecturer in Psychoanalysis and Psychosexual Sciences at Columbia University and Consultant for the Manhattan Hospital in New York.

Dr. J. H. Hagy,

Formerly of Imboden, is now located at Abingdon.

Summer Clinic at Raiford Hospital.

The third and final summer clinic was held at the Raiford Hospital, Franklin, on September 22nd. The following program was presented: The Pneumonias by Dr. H. B. Mulholland, University; Value of X-ray in Diagnosis of Respiratory Infections by Dr. Wright Clarkson, Petersburg; and Lower Right Abdominal Pain by Dr. Kurt Hirsch of the Raiford Hospital.

Approximately 125 physicians attended the three meetings and the series will be sponsored again next summer by the staff of the hospital.

Associated with Parke, Davis and Company.

Dr. Charles F. McKhann, who has for several years been on the faculty of the University of Michigan, has resigned from that institution to accept a position as Assistant to the President of Parke, Davis and Company. Dr. McKhann, who assumed his new duties October 15, will devote his time entirely to the scientific activities of the company.

Dr. McKhann has had an interesting and exceptional background of experience. Since 1930 he has conducted and directed research on communicable diseases, immunology, renal diseases, nutritional diseases, and on certain phases of toxicology. He developed and introduced immune globulin and has contributed to the development of several other products.

Dr. Otto Kastenbaum,

Formerly at Deltaville, is now located for general practice at 1303 Center Avenue, Broad Creek Village, Norfolk.

Dr. T. Jefferson Hughes,

Roanoke, was elected a member of the Board of Governors of the International College of Surgeons at its recent meeting in New York City.

Tropical Medicine.

At the invitation of the Pan American Sanitary Bureau, Dr. Olympio da Fonseca, Jr., medical director for Brazil of E. R. Squibb and Sons Inter-American Corporation, has arrived in the United States for an extensive lecture tour. He is appearing before the faculties and students of medical schools throughout this country, discussing *Tropical Medicine* with special emphasis on malaria, African sleeping sickness, amebic dysentery and ring worm infection.

Dr. da Fonseca is a professor at the National School of Medicine of the University of Brazil and is connected with the Medical Centre of Ceara and the Department of Health of that state. He has attained world-wide renown as a mycologist, both as teacher and as director in this field at the Institute of Manguinhos.

His lecture schedule may be obtained from E. R. Squibb and Sons, 745 Fifth Avenue, New York 22, N. Y.

New Books.

The following are recent acquisitions to the Library of the Medical College of Virginia and are available to our readers, the only cost being return postage:

Alvarez, Walter C.—Nerves, indigestion and pain.
American Dental Association—Index of the periodical dental literature—1939-1941.
Arnett—The story of North Carolina.
Bigger—Textbook of bacteriology. 5th ed.
Bloor—The biochemistry of the fats and related substances.
Breckinridge and Vincent—Child development.
Brock, Samuel, ed.—Injuries of the skull, brain and spinal cord.
Brockbank, E. M.—Mule spinners cancer, epithelioma of the skin in cotton spinners.
Cobb, Stanley—Borderlands of psychiatry.
Coca, Arthur F.—Food-allergy.
Cowdry—Microscopic technique in biology and medicine.
Cummins and Midlo—Finger prints, palms and soles: an introduction to dermatoglyphics.
Cunsumano, Chas. L.—Laugh at the lawyer who cross examines you.
Dodds, Leonard V.—Modern sunlight.
Fernald and Kinsey—Edible wild plants of Eastern North America.
Flugel, John Carl—Psychology of clothes.
Fulton, J. F.—Psysiology of the nervous system. 2nd ed.
Gruenberg, Hans—The genetics of the mouse.
Hrdlicka, Ales—Alaska diary, 1926-31.
Lindbergh, D. O. N.—A manual of pulmonary tuberculosis and an atlas of thoracic roentgenology.
Livingston, W. K.—Pain mechanism; a physiological interpretation of causalgia.
Luhr, Overton—Physics tells why.
Marie and Rowe—Dental vocabulary. English-Spanish and Spanish-English.
Miller—Textbook of periodontia.
Monsch-Harper—Feeding babies and their families.
Myers, Gustavus—History of bigotry in the United States.

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Oman, C. M.—Doctors aweigh.
Panum, Peter Ludwig—Observations made during the epidemic of measles on the Faroe Islands in 1846.
Papers of C. V. Chapin.
Pharmaceutical Recipe Book. 3rd ed.
Rogers, Walter P.—Andrew D. White and modern university.

Another Army Hospital Dedicated.

The Ashford General Hospital, White Sulphur Springs, W. Va., was dedicated on October the 16th, in the presence of Surgeon General Norman T. Kirk, Colonel Clyde M. Beck, commanding officer, and members of his staff and invited guests. The garrison flag was presented by Mrs. Arthur Kelly Evans of Hot Springs. Colonel Beck and his staff entertained the guests at the recreation center after the ceremonies.

This hospital, formerly The Greenbrier Hotel, is named in honor of Bailey K. Ashford, Colonel, Medical Corps, U. S. Army, administrator, writer and distinguished authority in the fields of preventive medicine and tropical diseases.

For Sale—

A General Electric X-ray Machine, guaranteed in good order. Address Dr. J. W. D. Haynes, Mathews, Va. (*Adv.*)

Obituaries

Dr. Wright Clarkson,

Petersburg, prominent physician of Southside Virginia, died at Garfield Memorial Hospital, Washington, on October the 17th, from complications following pneumonia. He was a native of Essex County and fifty-three years of age. Dr. Clarkson graduated from the Medical College of Virginia in 1912 and served an internship at St. Elizabeth's Hospital Richmond. After a short time in private practice he saw service overseas in World War I, after which he took up special work in radiology in New York City. He had been engaged in x-ray work in Petersburg since 1921 and had taken an active part in the professional and civic life of that place.

Dr. Clarkson was a moving spirit in the Fourth District and Southside Virginia Medical Society, a former councilor and chairman of the Legislative Committee of the Medical Society of Virginia, and represented this Society in the House of Delegates of the American Medical Association. He opened the first free cancer clinic in the State. As an outgrowth of that, the Virginia Cancer Foundation was formed in 1934 and he was the first director.

He is survived by his wife, a son, and several sisters.

Resolutions on Dr. Monroe.

These resolutions of the Manchester Medical Society are in loving memory of Dr. Archie Clay Monroe, who answered the final call of his Lord and Master on May 21, 1943, at his home on Belleau Road, Richmond, Virginia.

We feel it is impossible to adequately express the love, esteem, and admiration of the members of this Society. In the death of this well known physician the medical profession, and laity of the City and State have suffered a great loss.

Archie Clay Monroe was born in Fauquier County, Virginia, June 2, 1883. After completion of his premedical education, he entered the University College of Medicine, which later merged with the Medical College of Virginia, and there graduated in 1907. Returning to Fauquier County, he practiced there for two years, after which he moved to Caroline County, where he practiced for twelve years. In 1921 he came to Richmond and practiced until 1943, the year of his death.

He was a general practitioner who through his congenial manner, good humor, and great skill quickly won the love and respect of other members of his profession, and of the great host of his patients and friends. He was clever in the art of spreading good humor and optimism among those around him, which was a most valuable addition to his professional skill in the sick room. He distinguished himself in his profession, and his patients will feel the irreparable loss keenly for a long time.

He was a member of the American Medical Association, the Southern Medical Association, the Medical Society of Virginia, the Richmond Academy of Medicine, and the Manchester Medical Society. He was a Mason and a member of the Church of the Good Shepherd, where he served as vestryman for twenty years.

He was married to Rae Smith, who survives him together with his two daughters, Harriet and Rebecca.

He will be sorely missed in our Society, where he always contributed, not only scientific knowledge, but an abundance of friendliness and good cheer. It is with sincere sorrow that we pay this last tribute to our fellow member of the Manchester Medical Society.

Your committee moves that these resolutions be spread on the minutes of the Society, a copy be sent to the family of the deceased, and a copy sent to the VIRGINIA MEDICAL MONTHLY.

Signed:

TURNER S. SHELTON
GEORGE R. MALONEY
PHILIP JONES, *Chairman.*